

FIG. 1

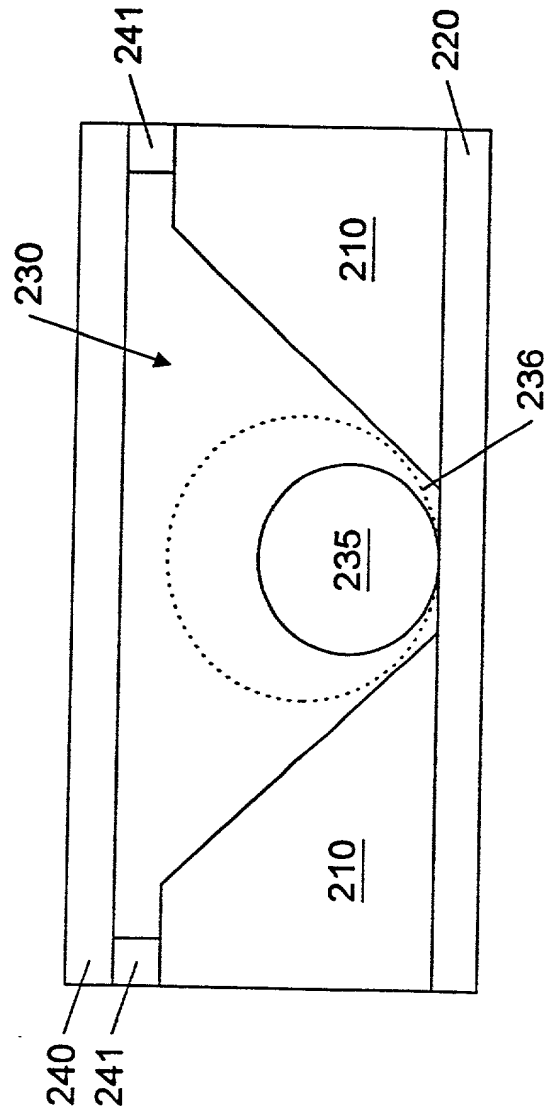


FIG. 2

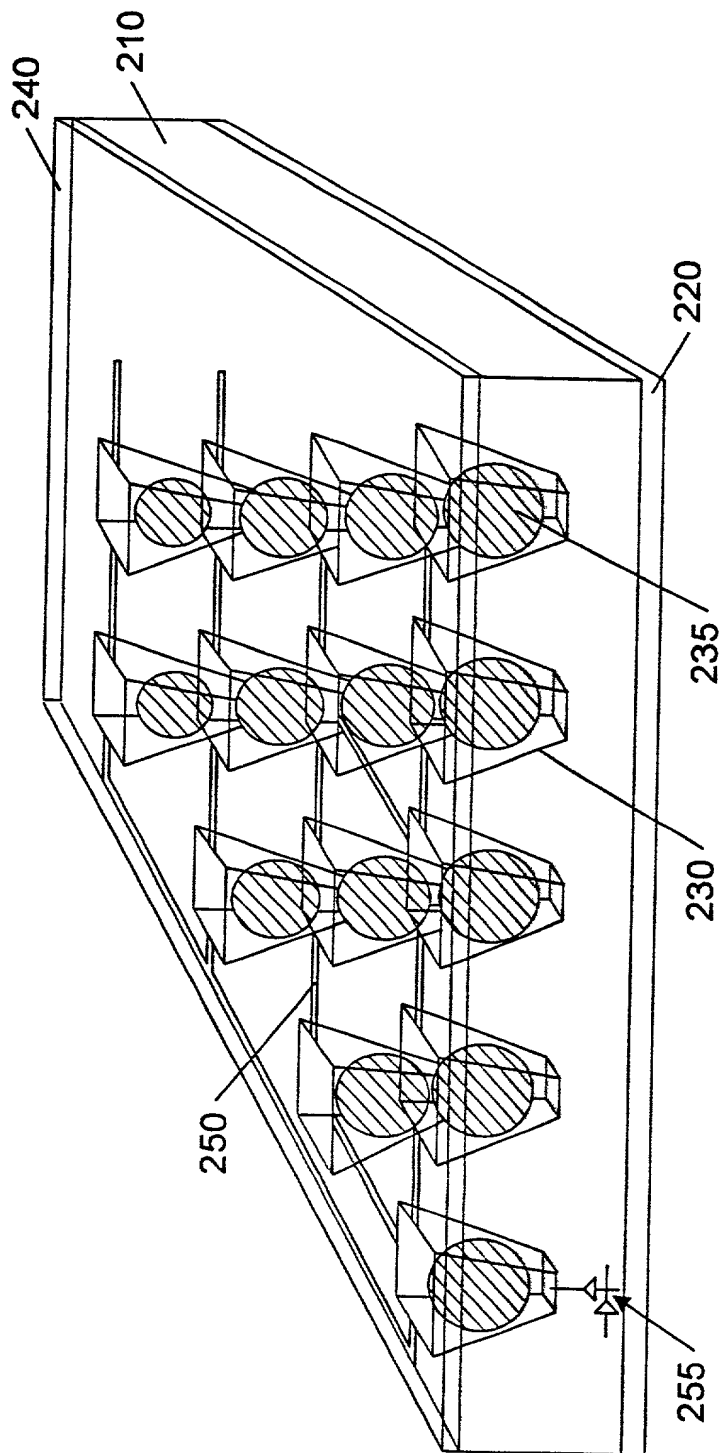


FIG. 3

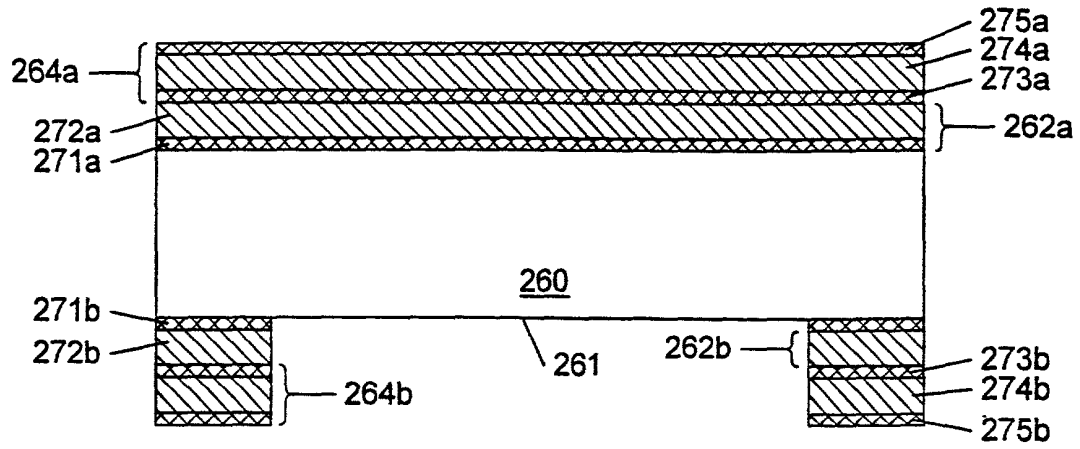


FIG. 4A

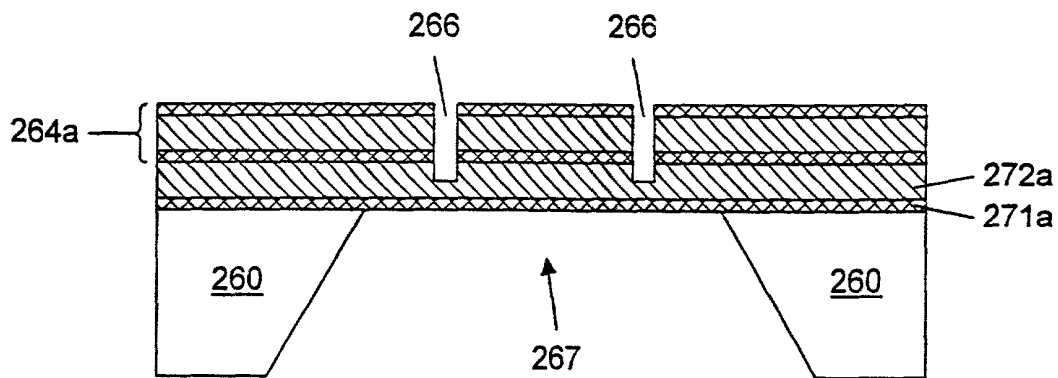


FIG. 4B

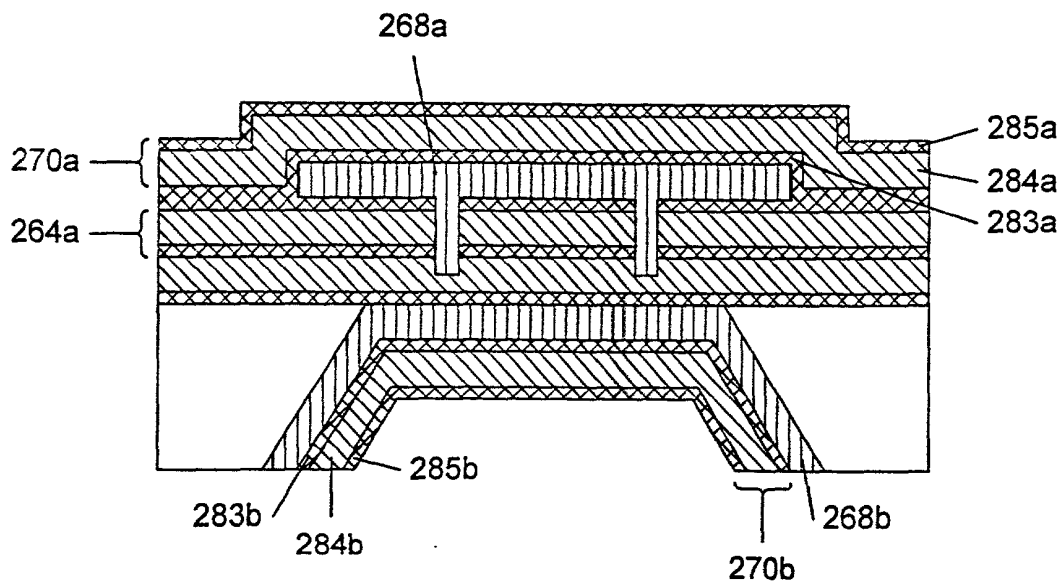


FIG. 4C

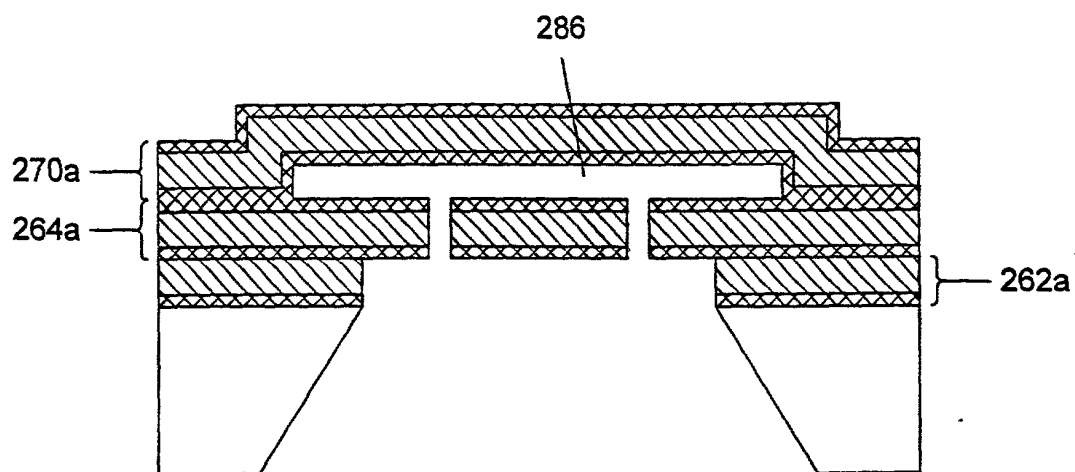


FIG. 4D

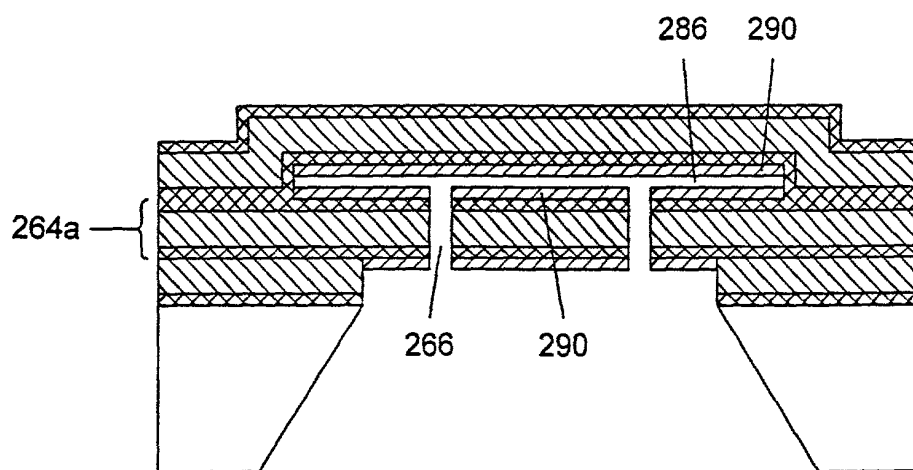


FIG. 4E

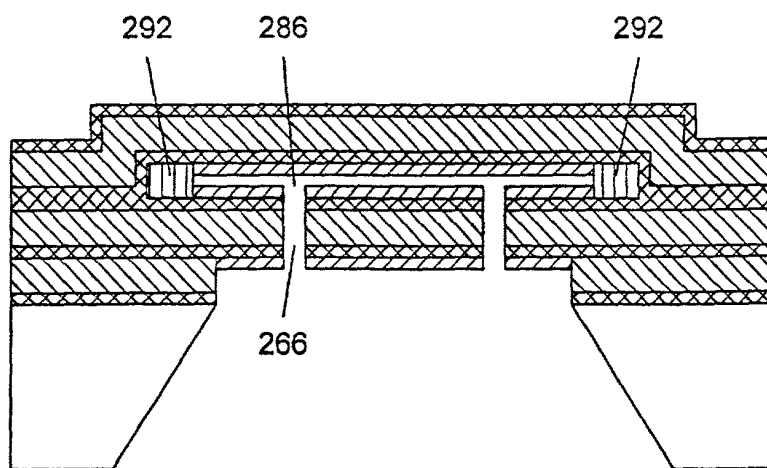


FIG. 4F

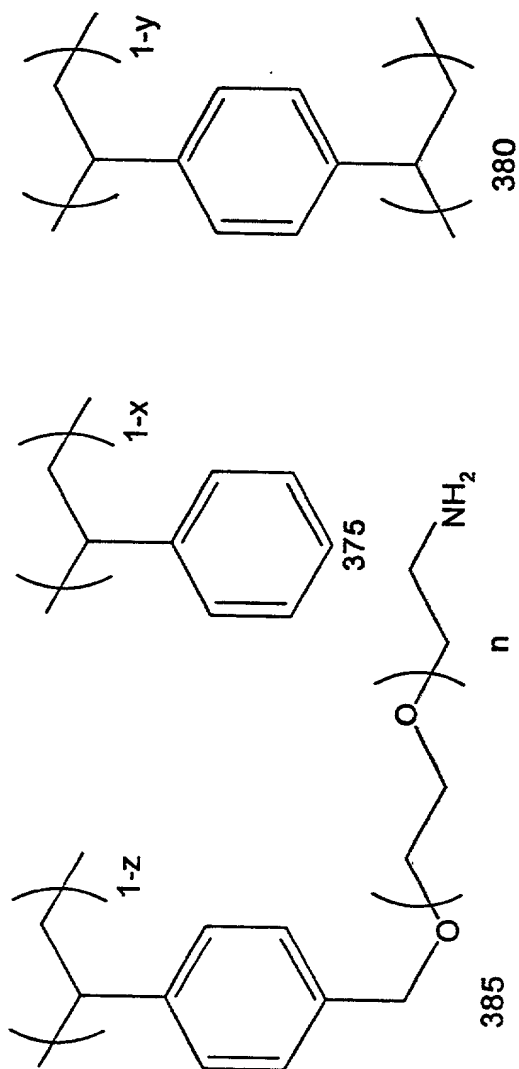


FIG. 5

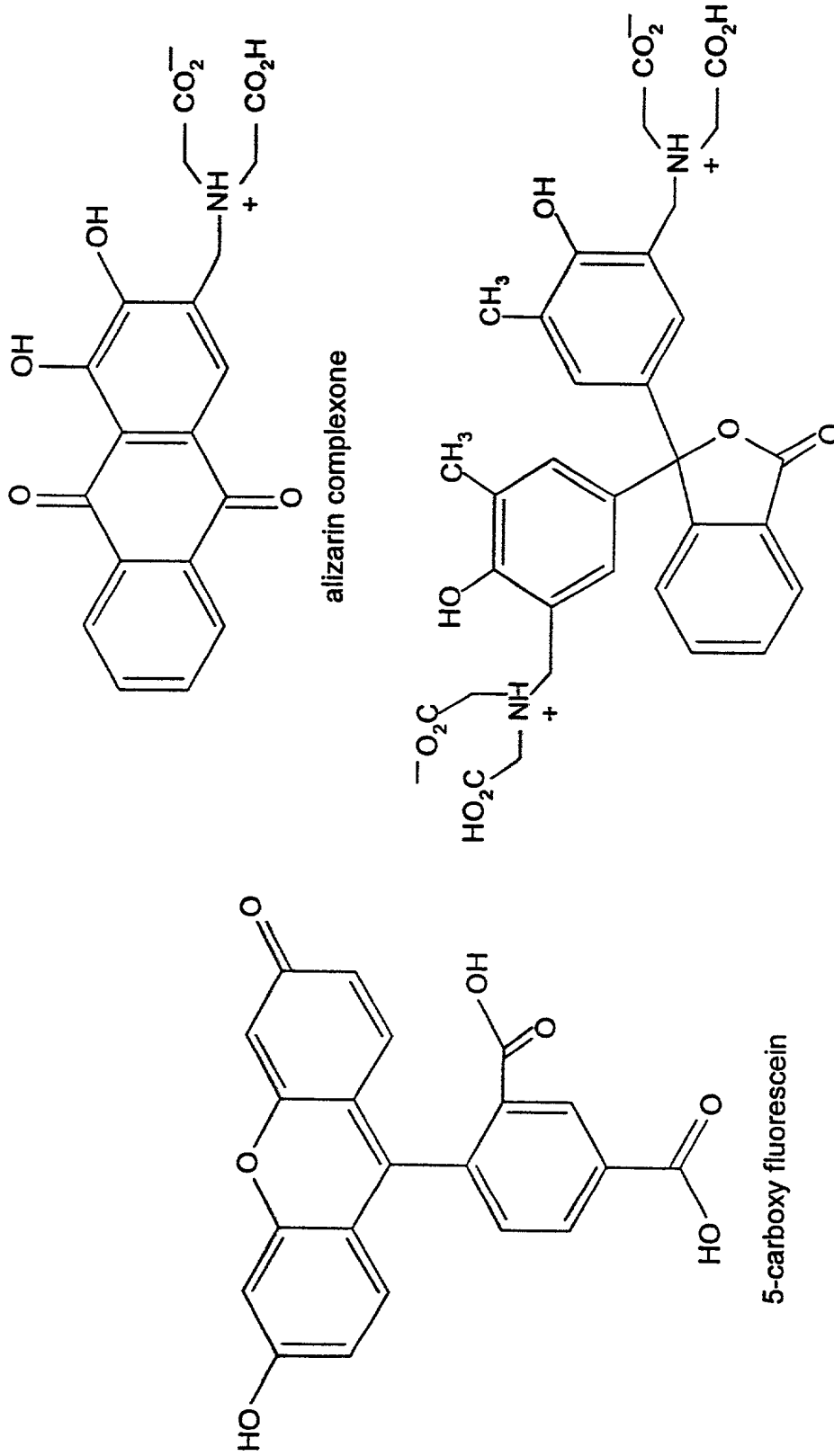


FIG. 6

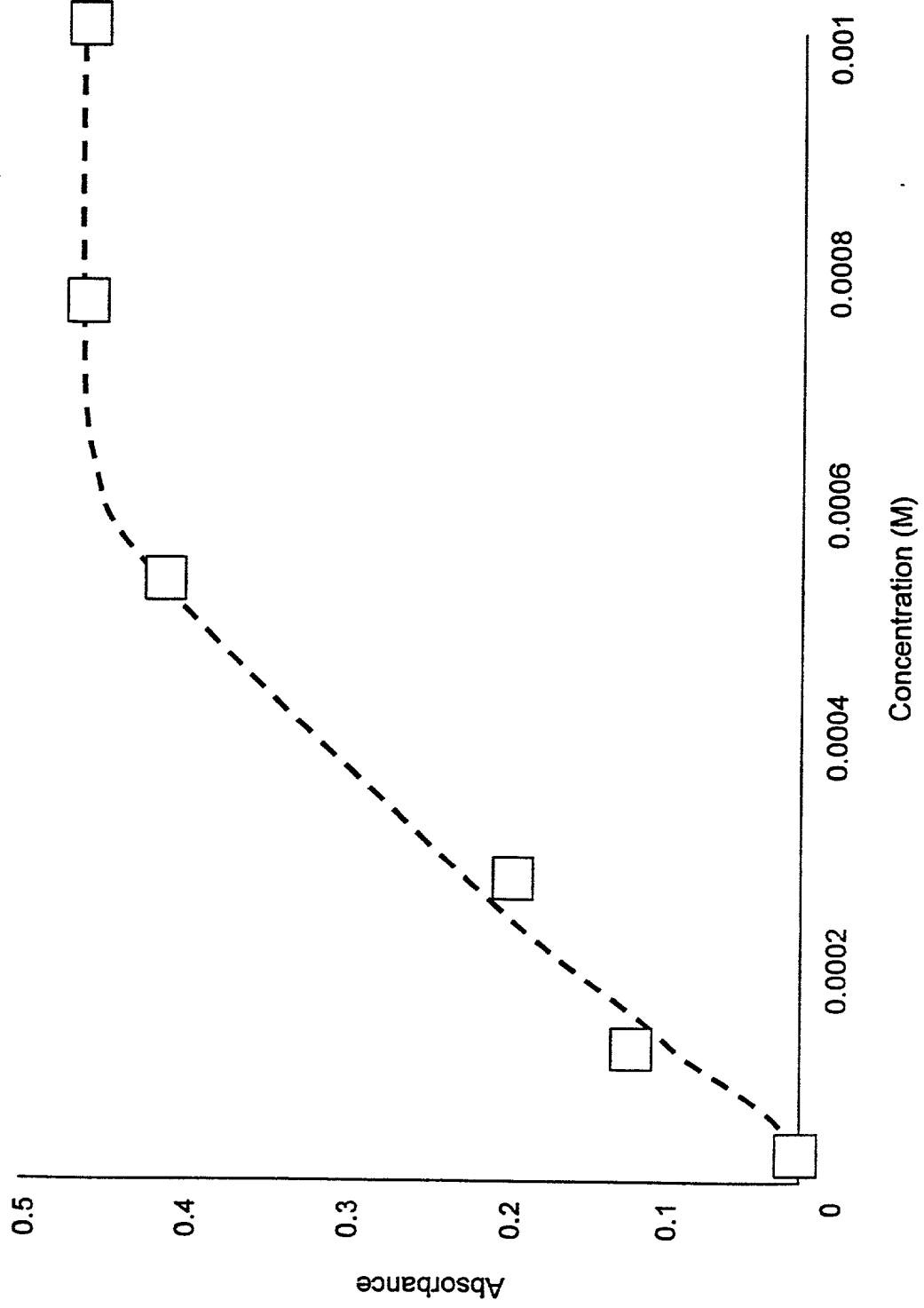


FIG. 7

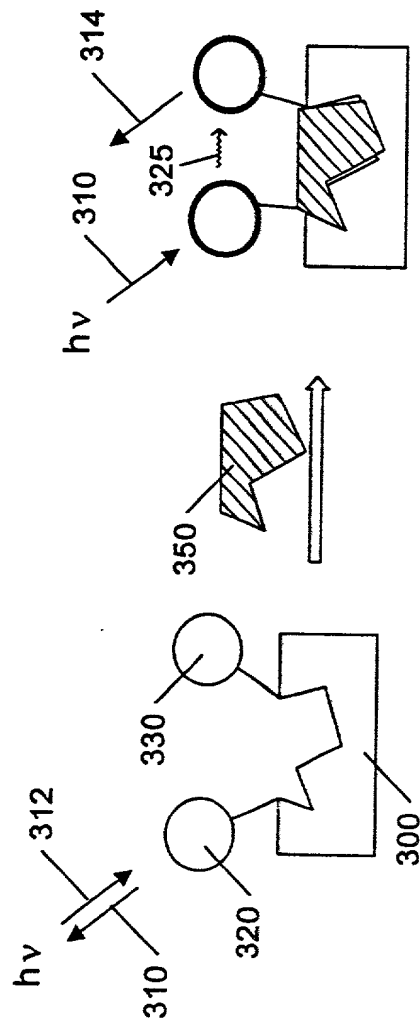


FIG. 8

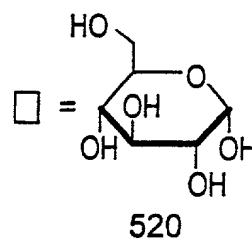
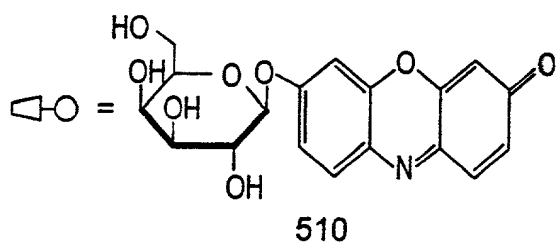
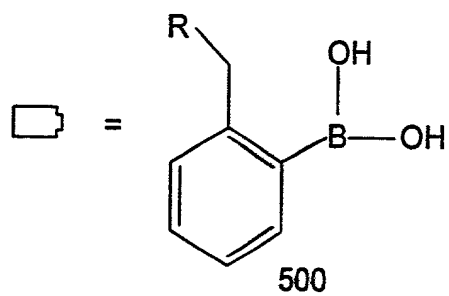
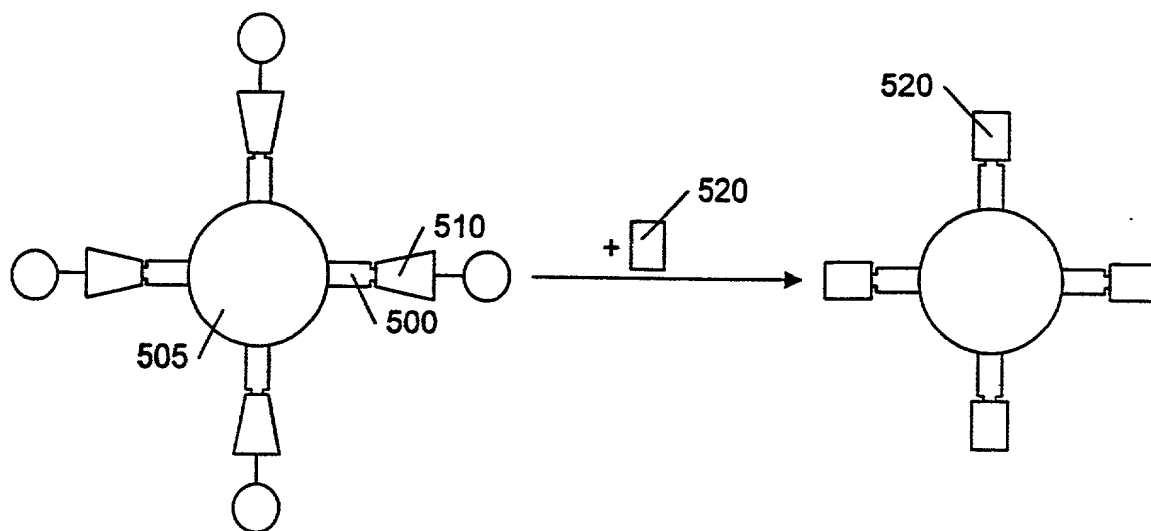
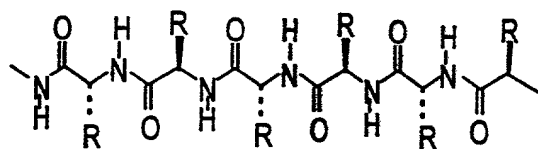
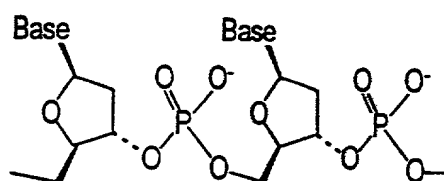


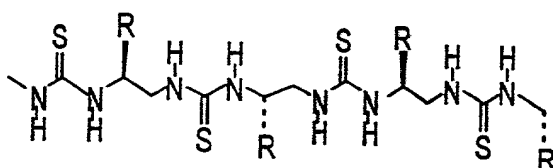
FIG. 9



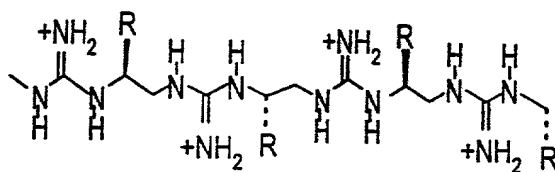
Peptides



Nucleotides



Polythioureas



Polyguanidiniums

FIG. 10

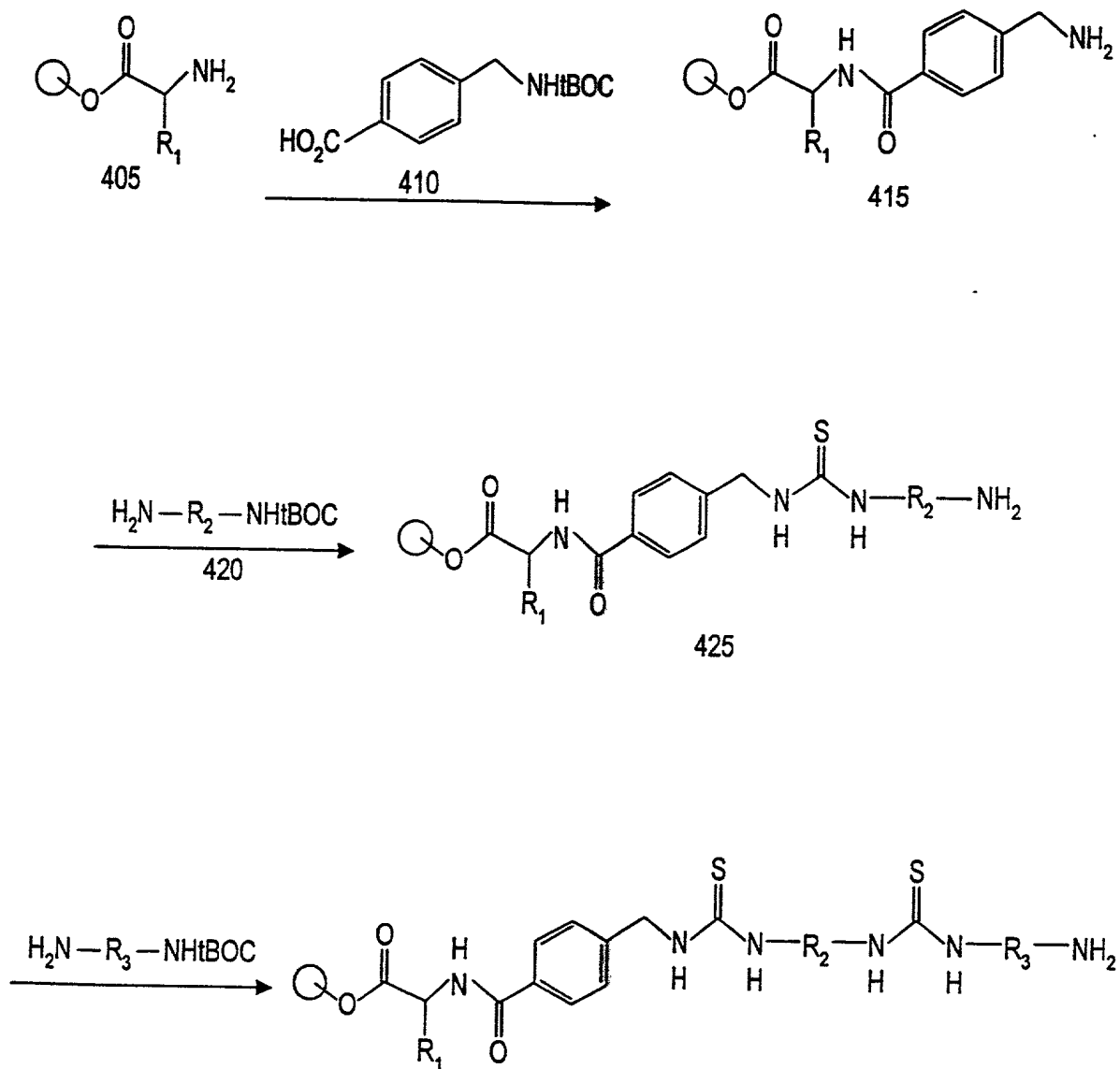


FIG. 11

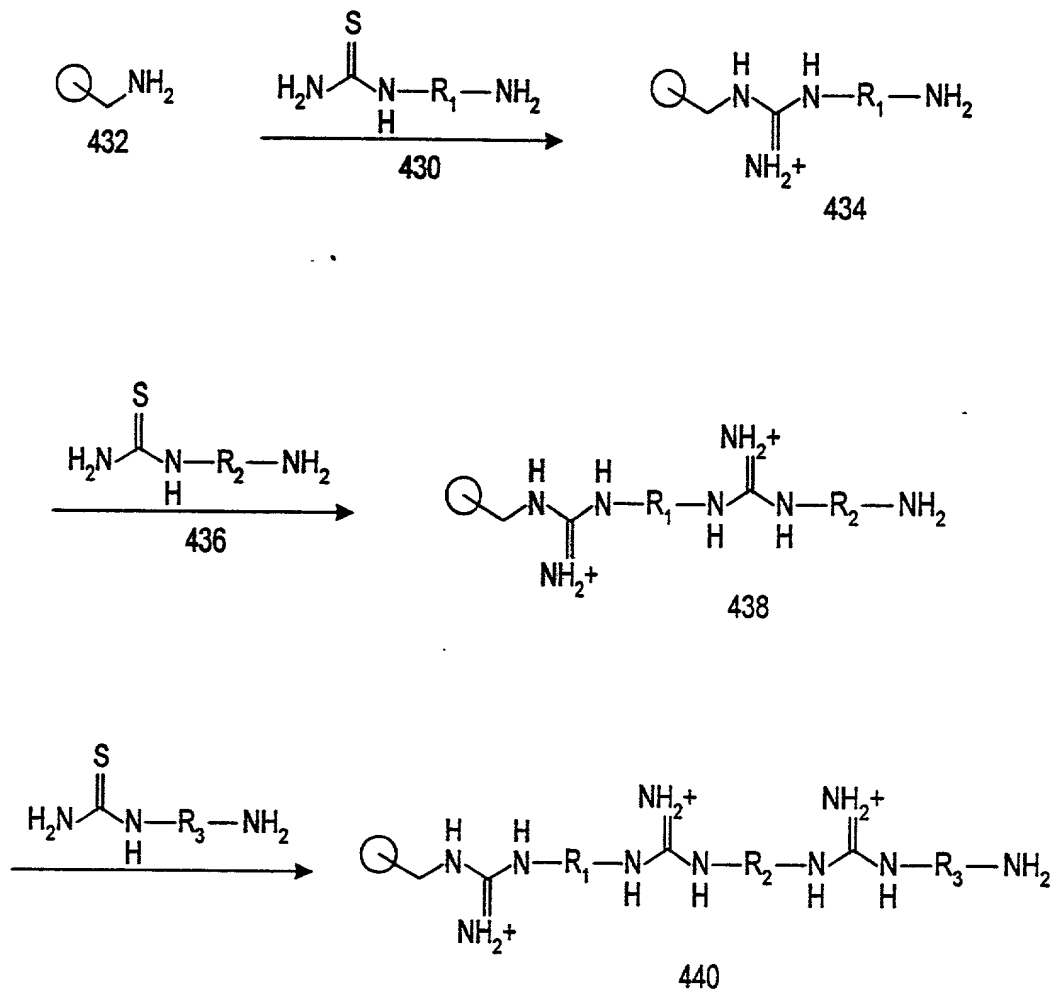


FIG. 12

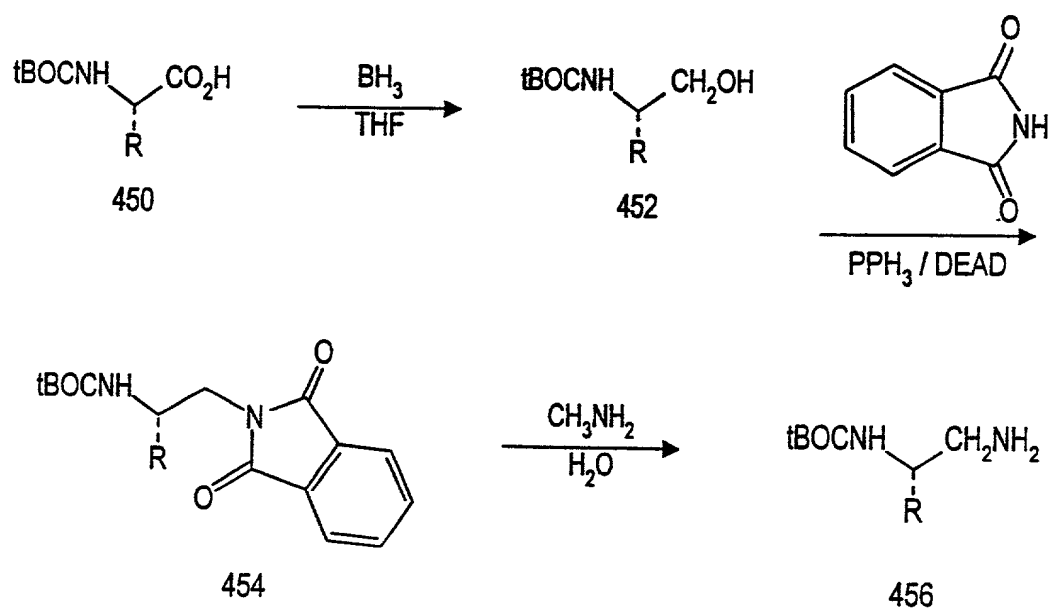


FIG. 13

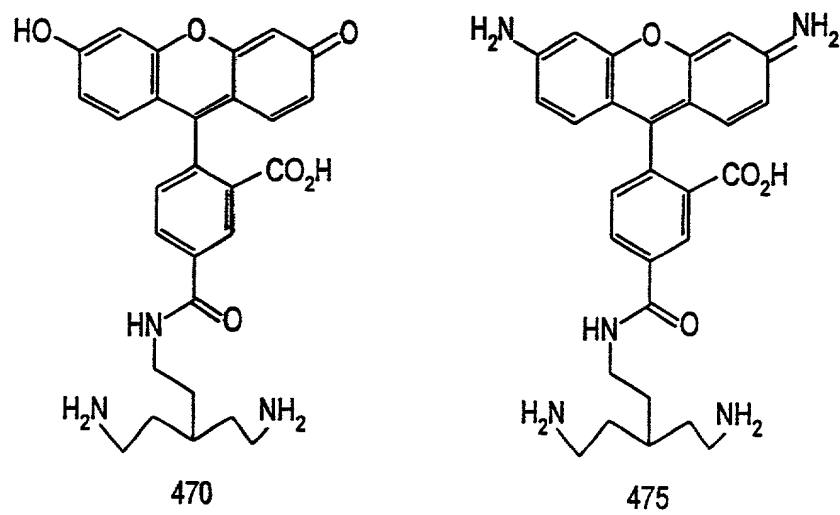


FIG. 14

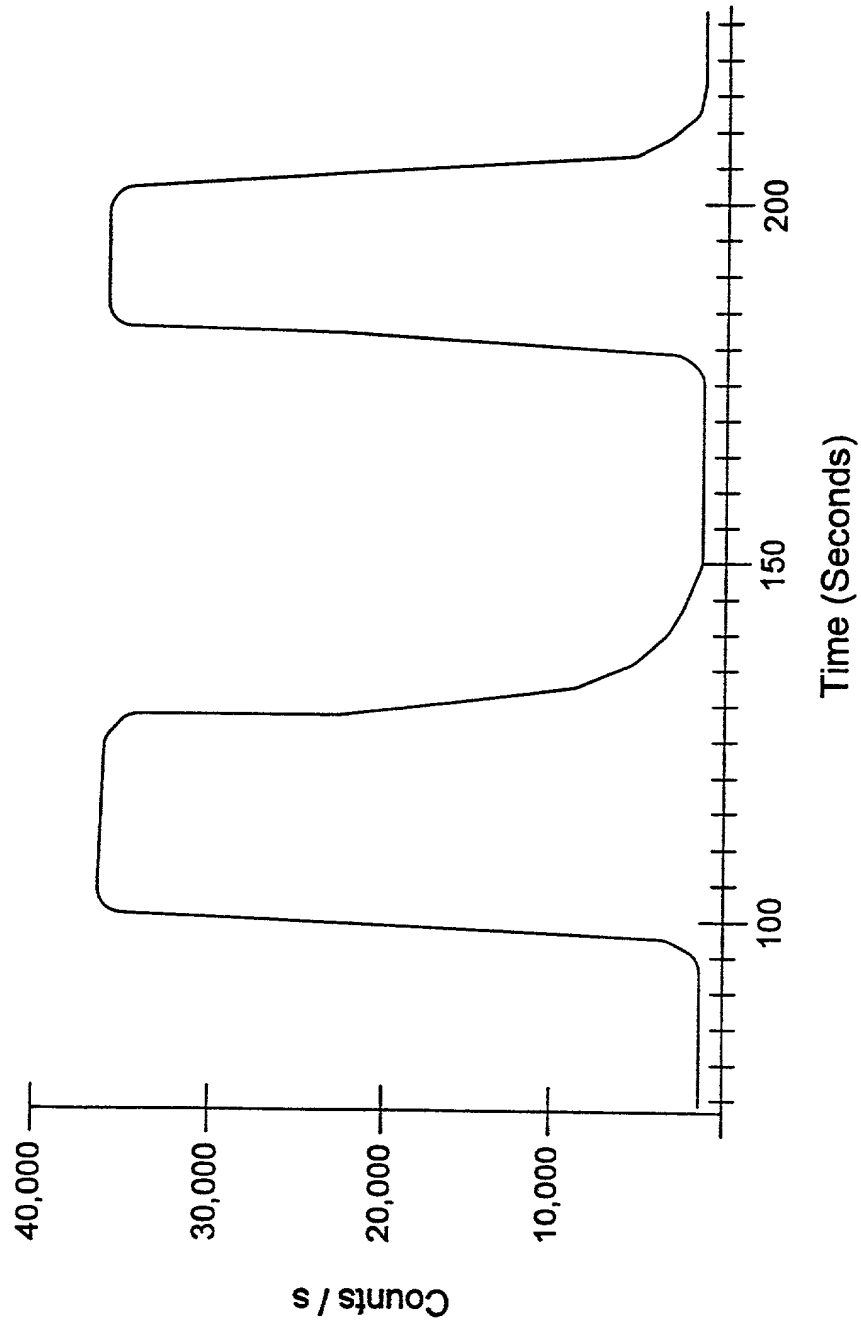


FIG. 15

RESIN: pH Ion		Blank	Alizarin	o-Cresol- phthalein	Fluorescein	Alizarin-Ce ³⁺ complex
2	none					
2	Ca ²⁺					
7	none					
7	Ca ²⁺					
7	F ⁻					
12	none					
12	Ca ²⁺					
12	F ⁻					

FIG. 16

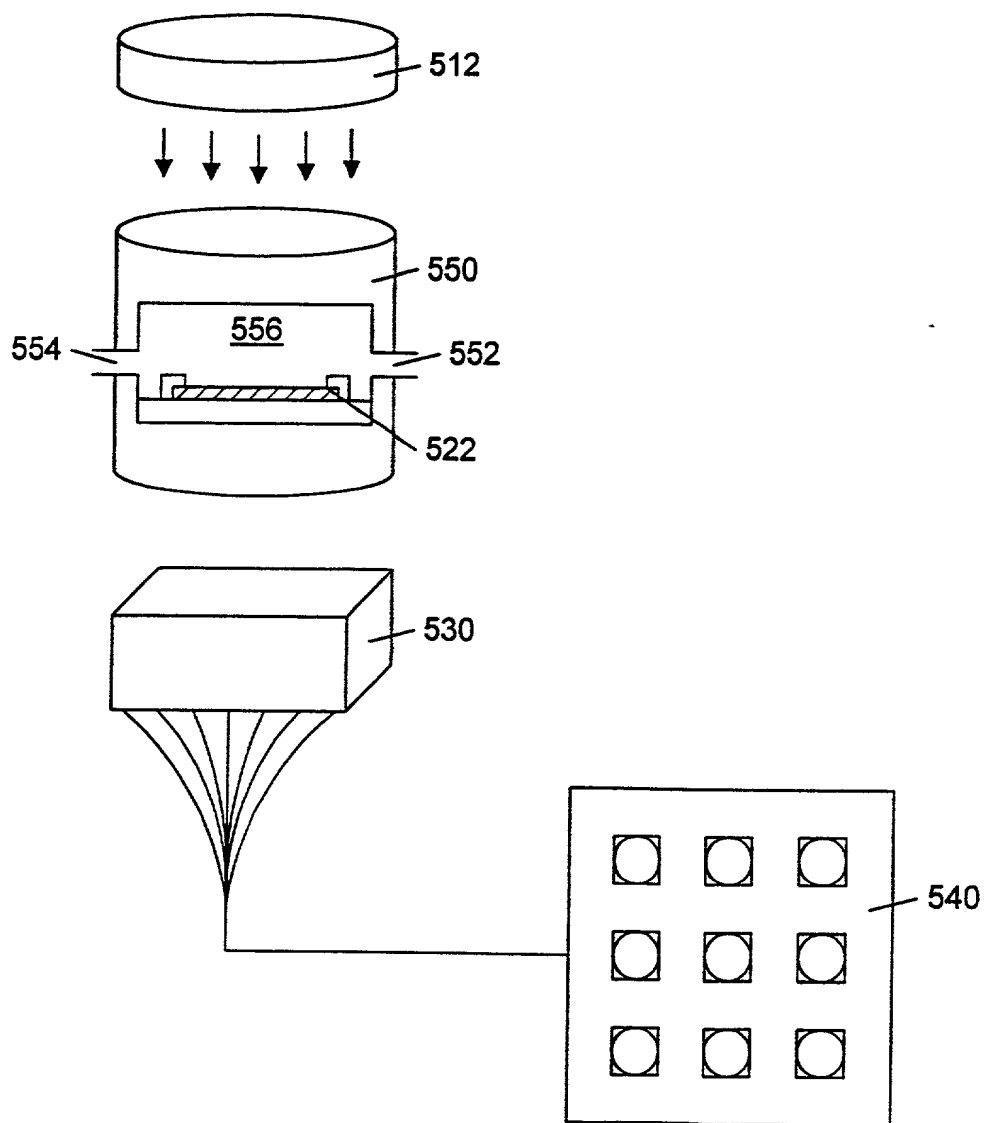


FIG. 17

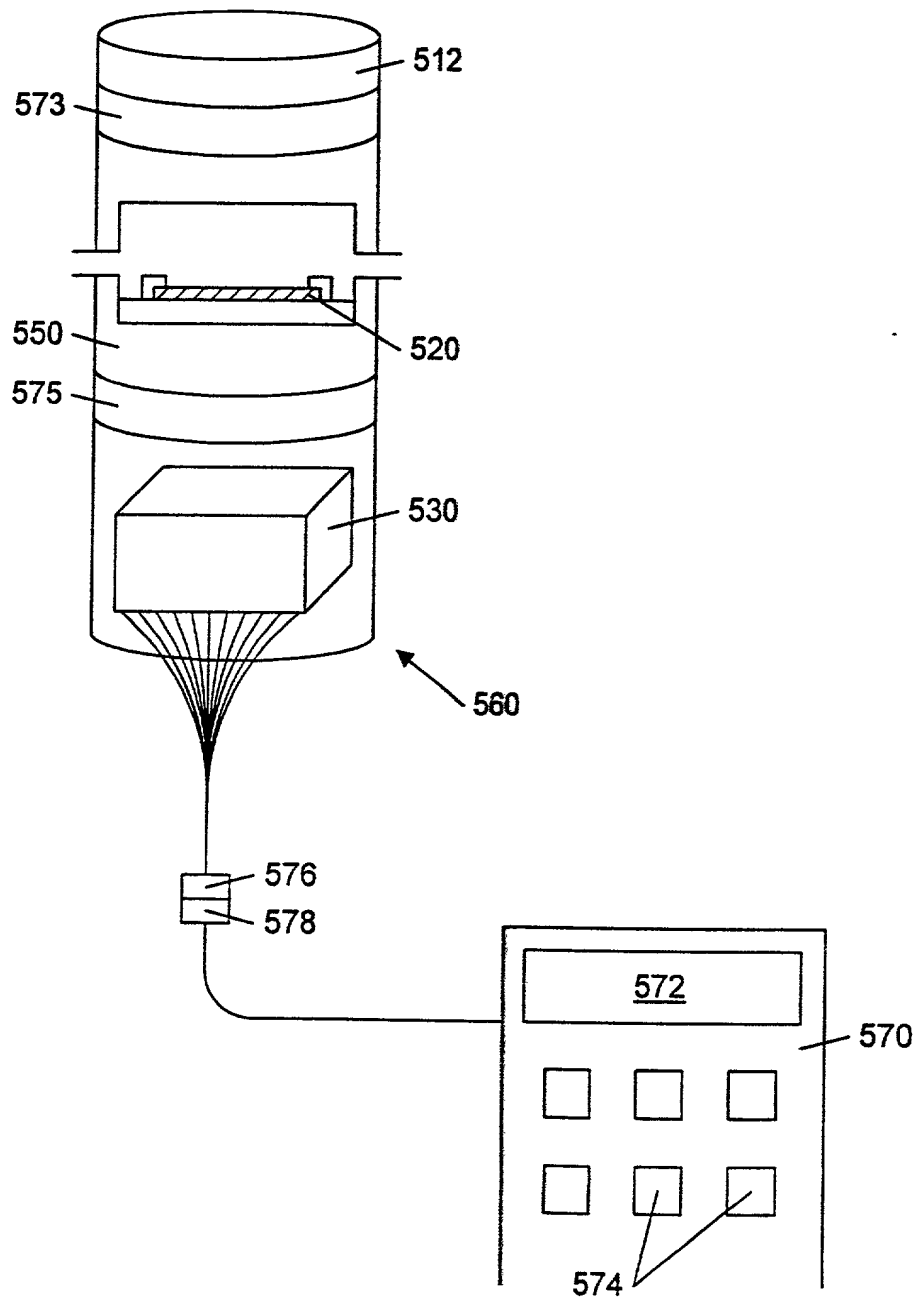


FIG. 18

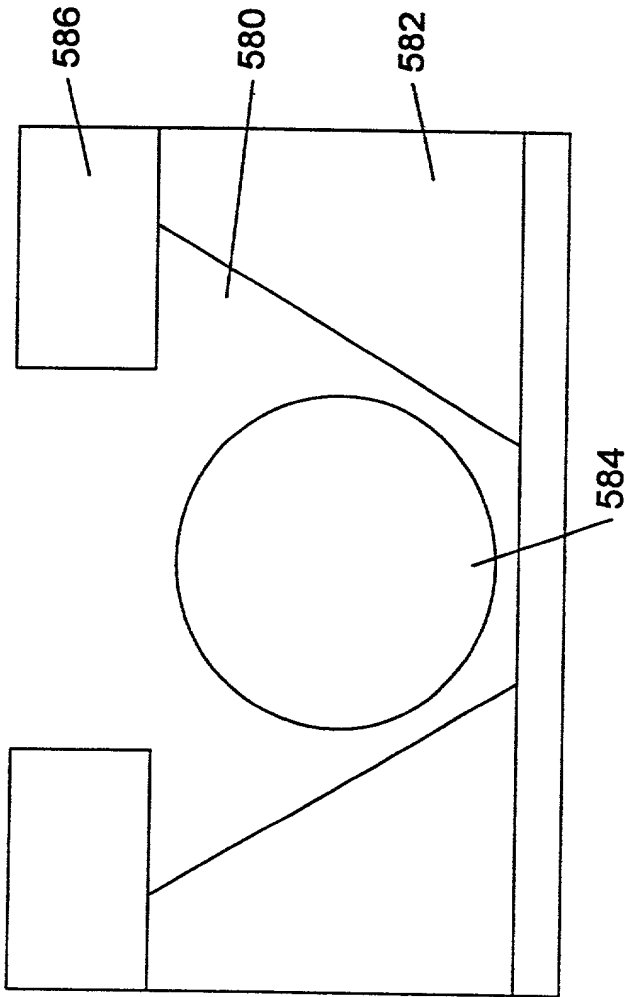


FIG. 19

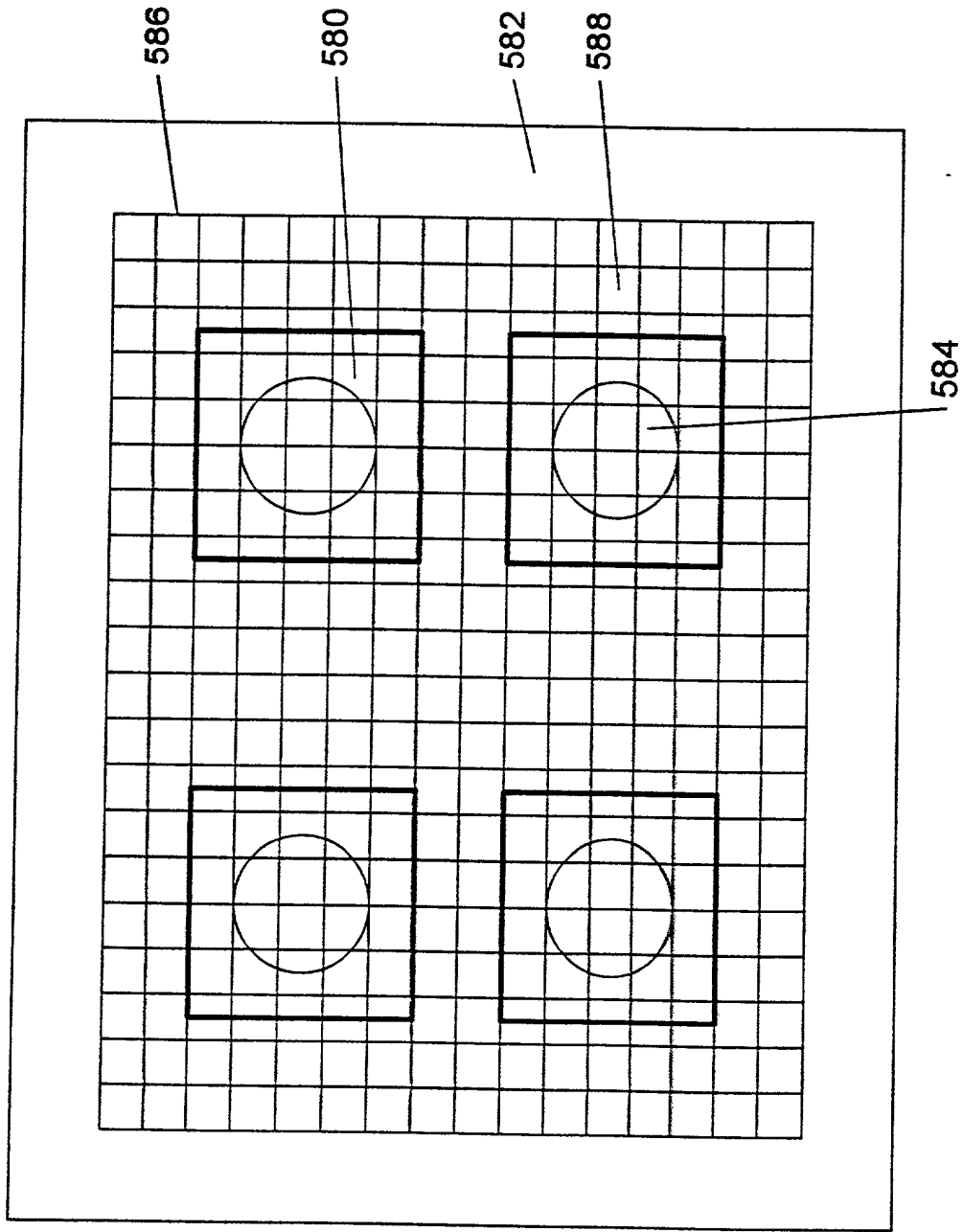


FIG. 20

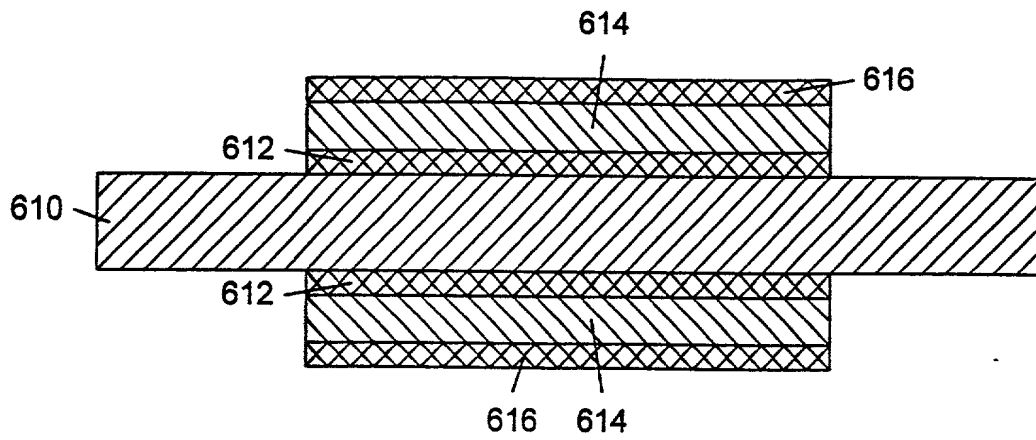


FIG. 21A

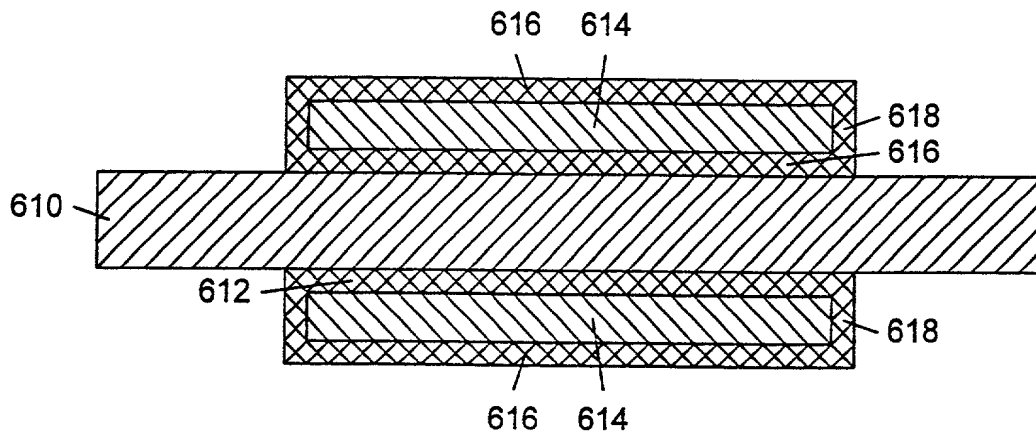


FIG. 21B

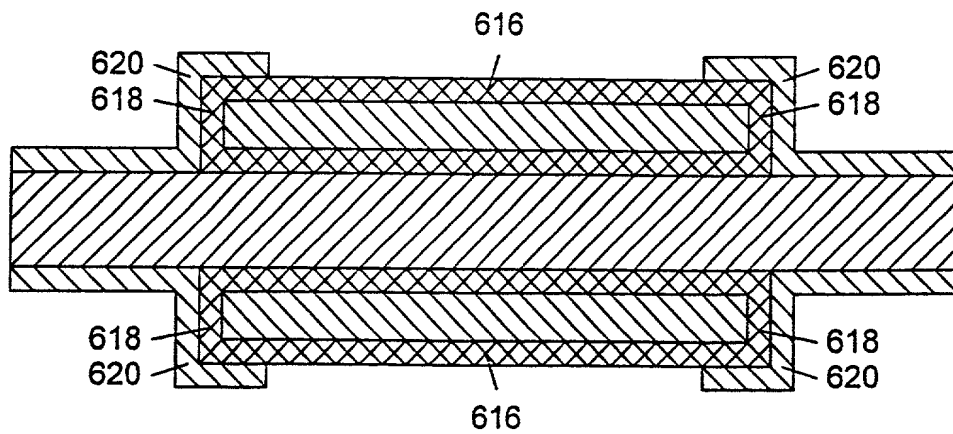


FIG. 21C

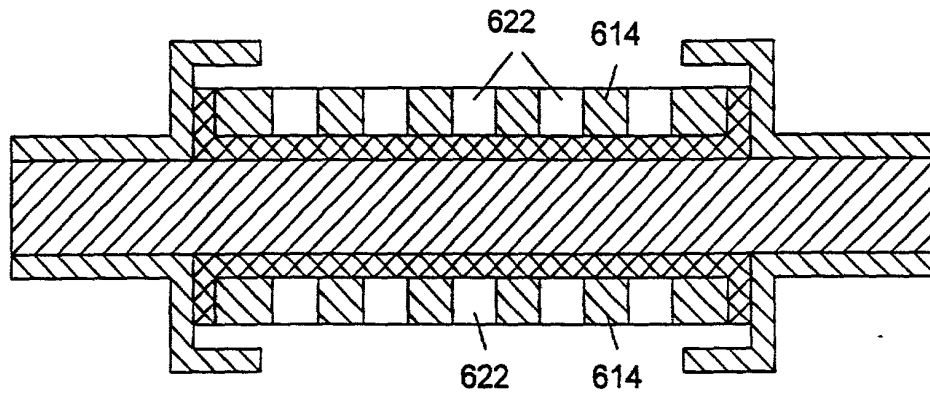


FIG. 21D

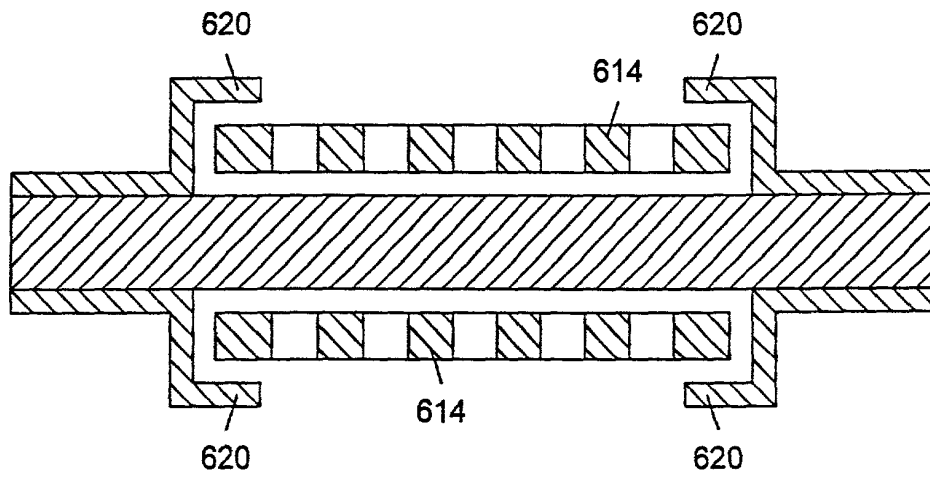


FIG. 21E

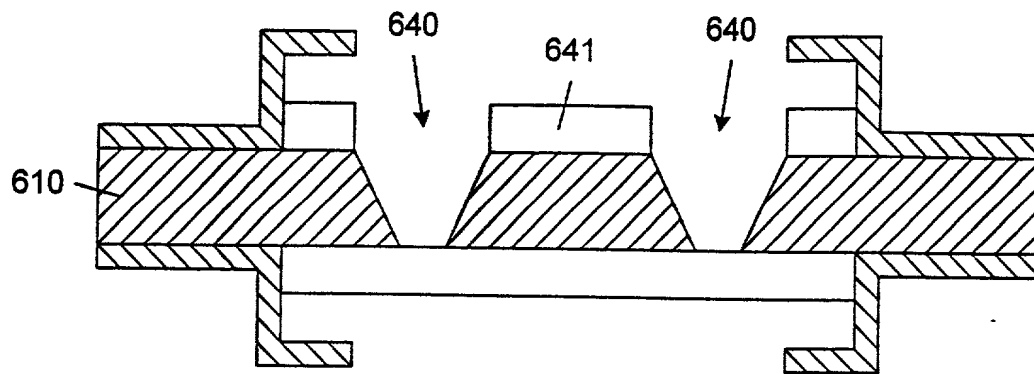


FIG. 21F

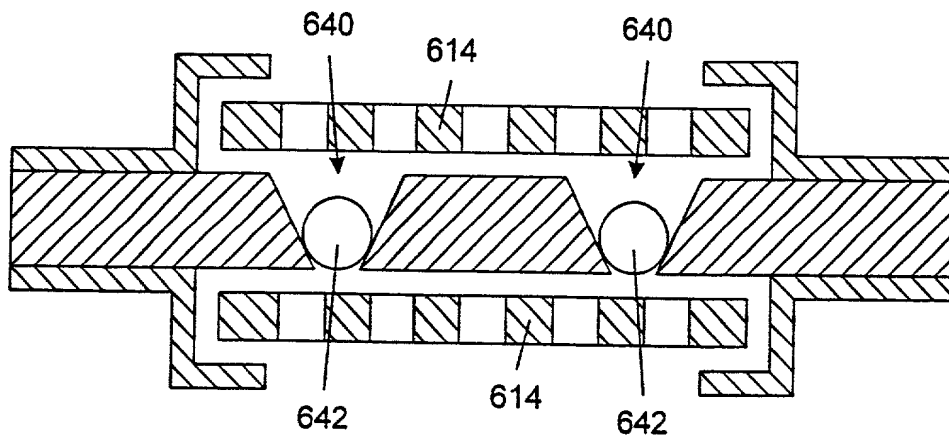


FIG. 21G

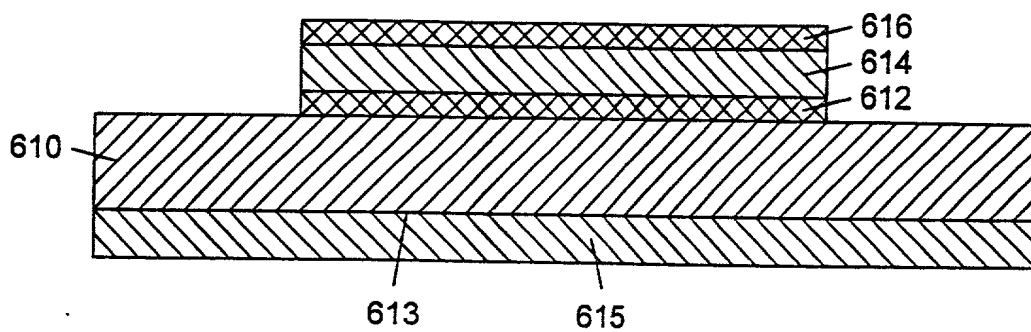


FIG. 22A

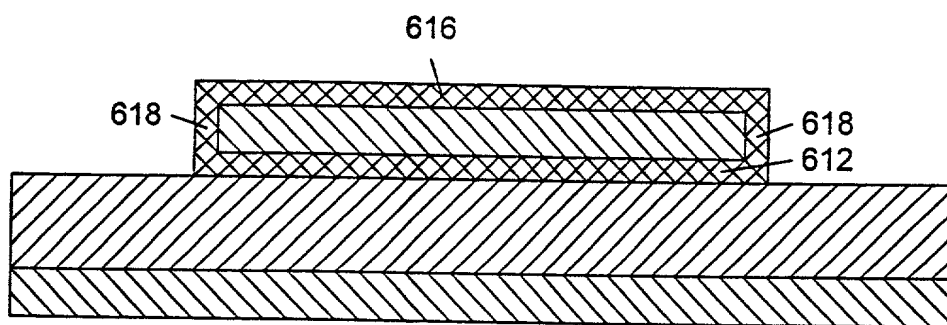


FIG. 22B

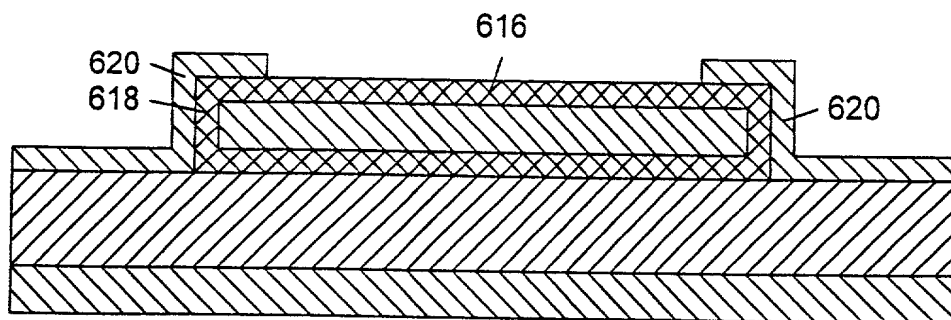


FIG. 22C

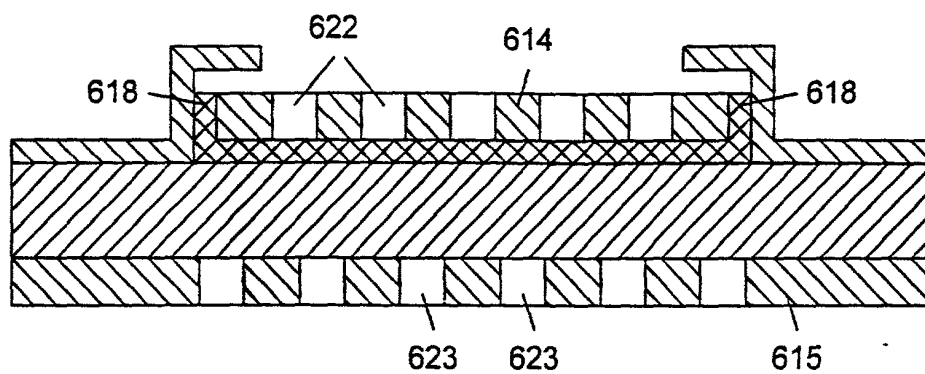


FIG. 22D

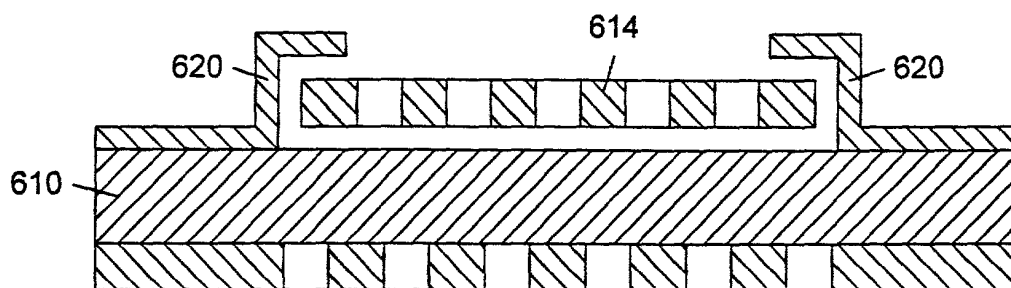


FIG. 22E

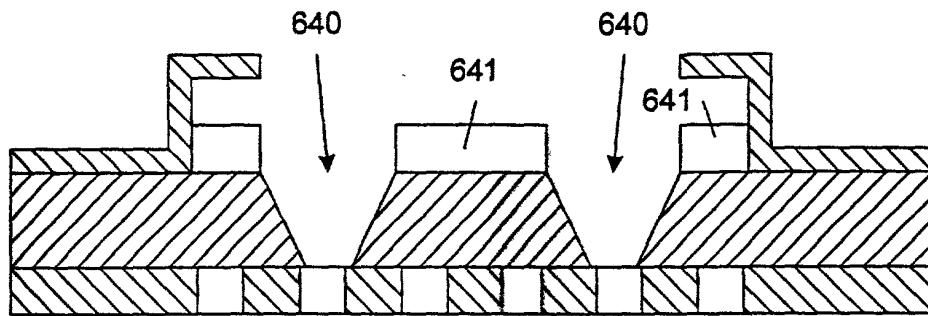


FIG. 22F

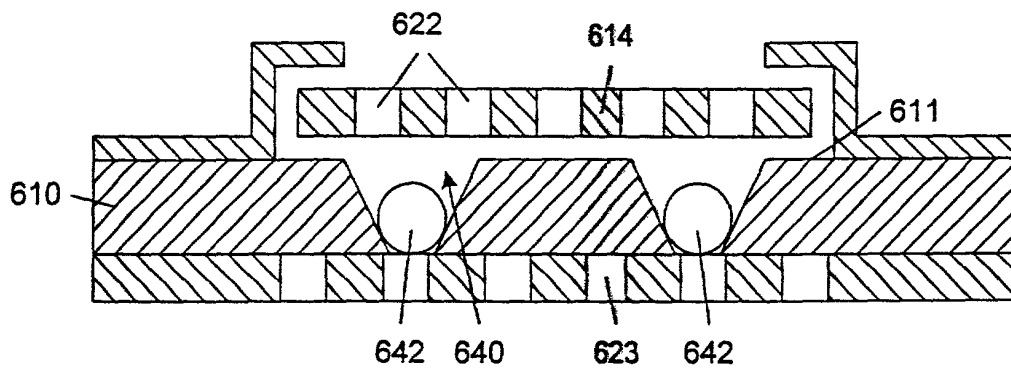


FIG. 22G

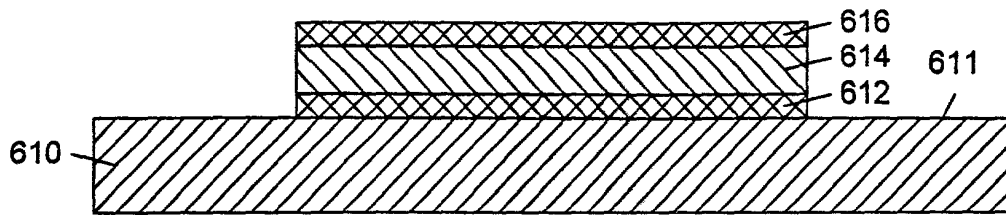


FIG. 23A

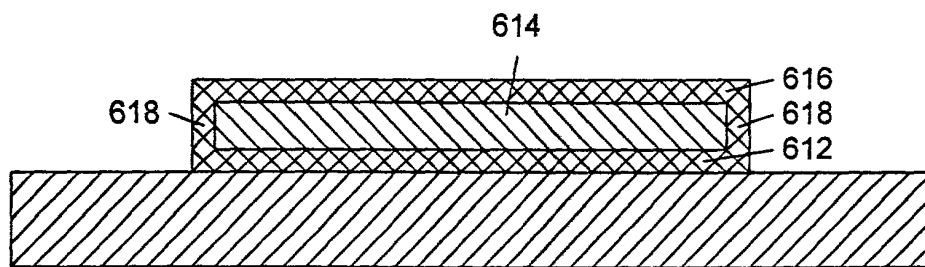


FIG. 23B

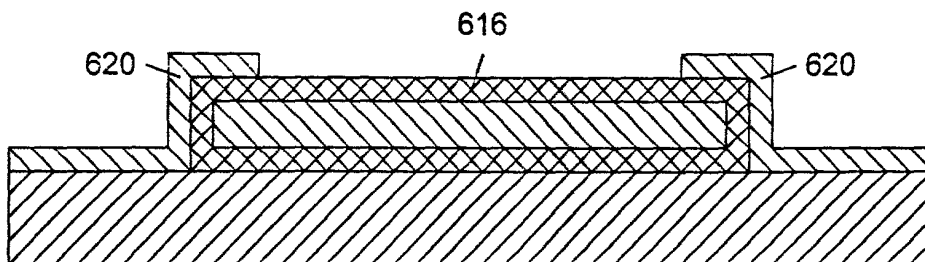


FIG. 23C

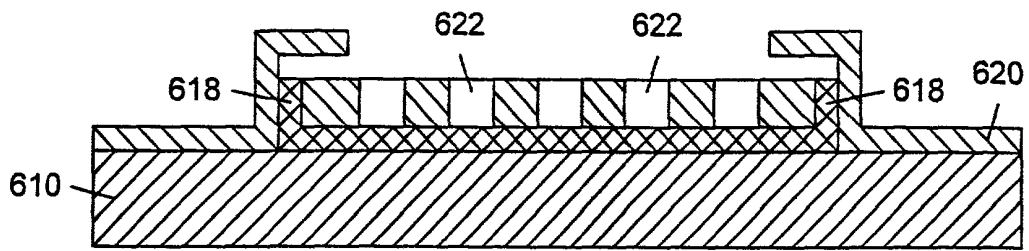


FIG. 23D

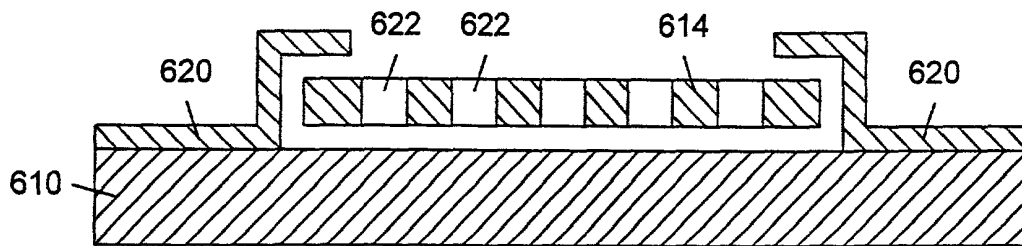


FIG. 23E

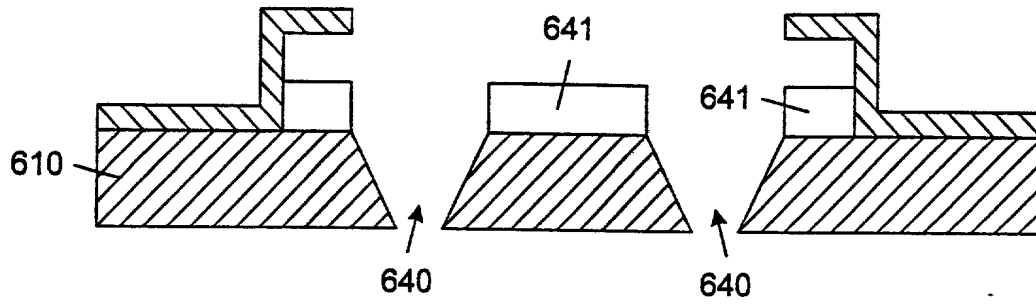


FIG. 23F

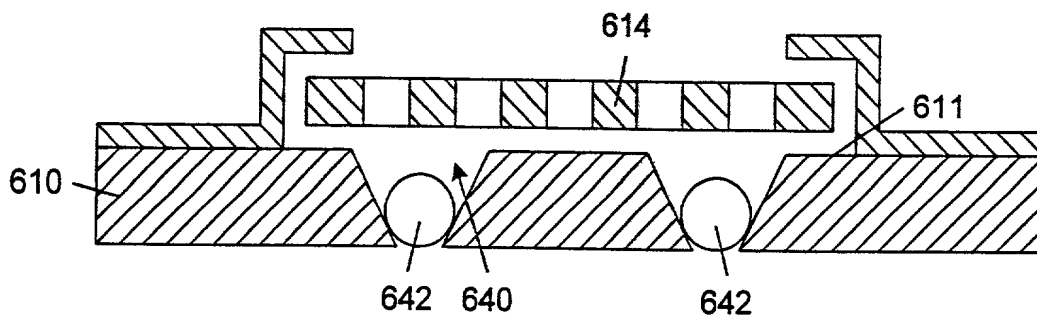


FIG. 23G

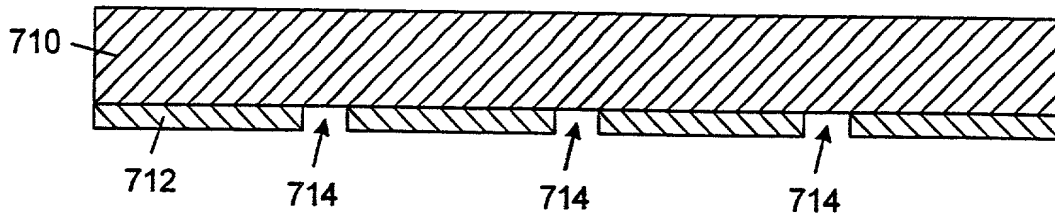


FIG. 24A

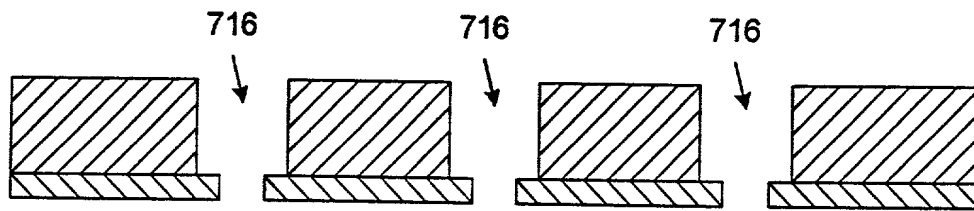


FIG. 24B

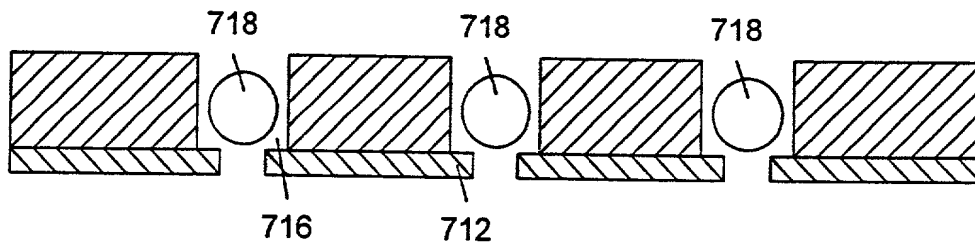


FIG. 24C

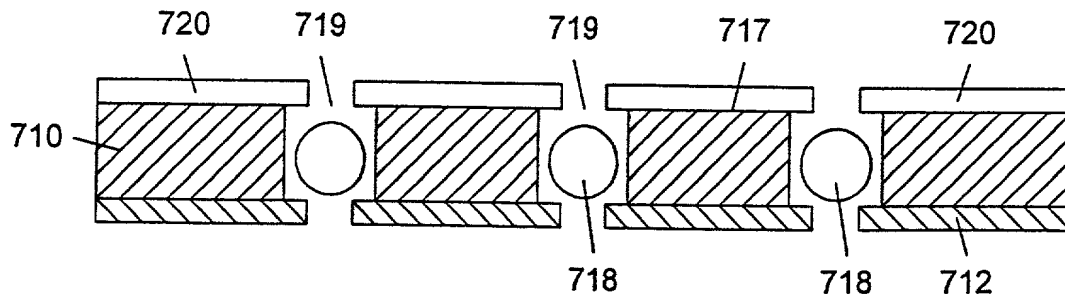


FIG. 24D

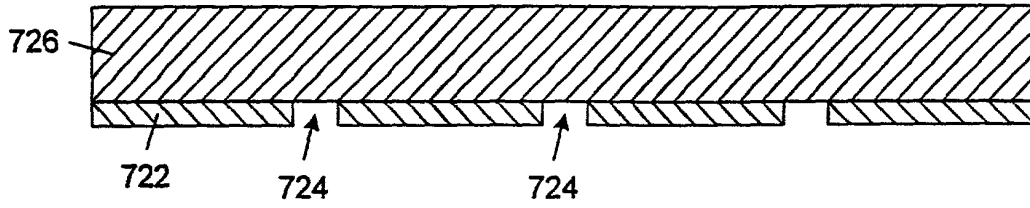


FIG. 25A

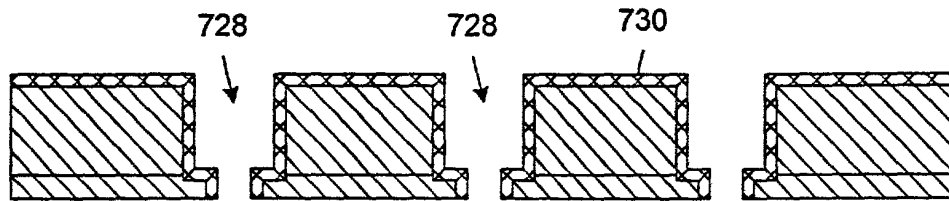


FIG. 25B

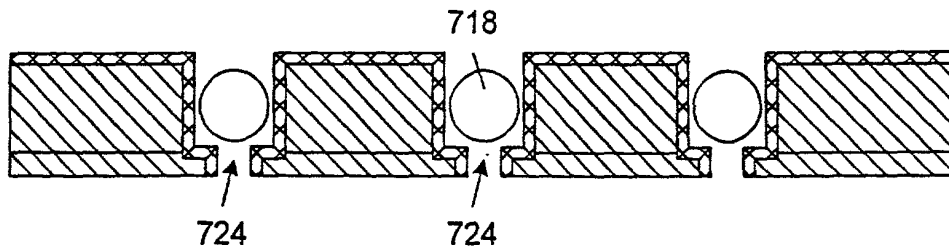


FIG. 25C

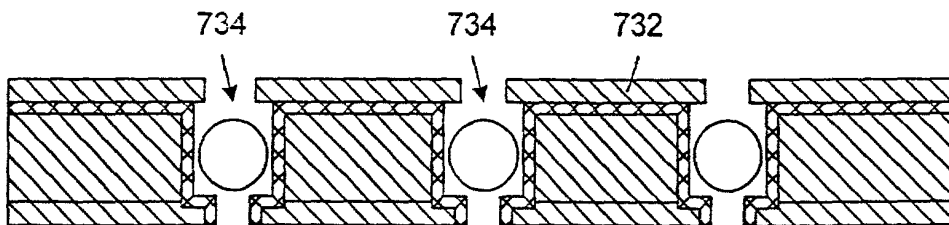


FIG. 25D

FIG. 25A

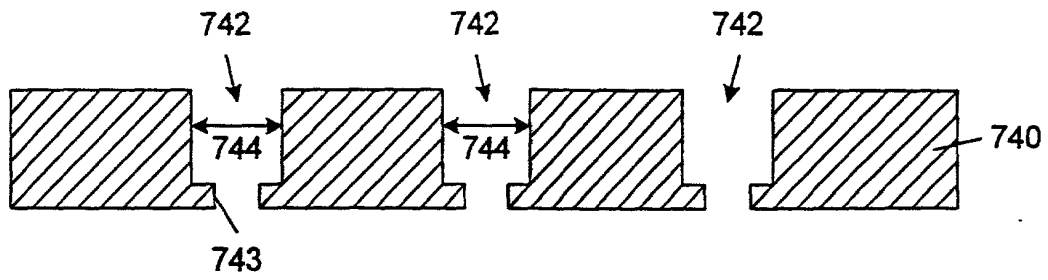


FIG. 26A

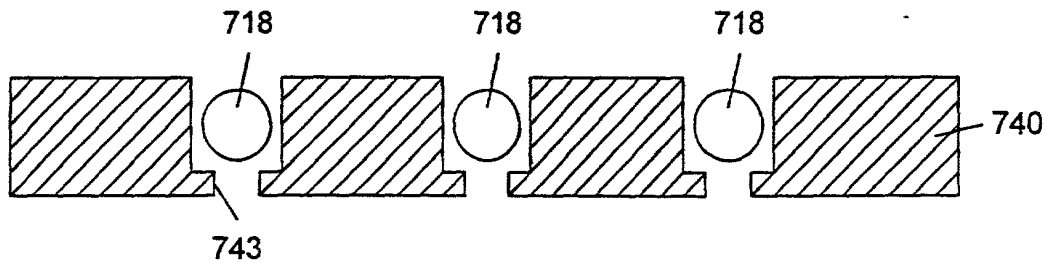


FIG. 26B

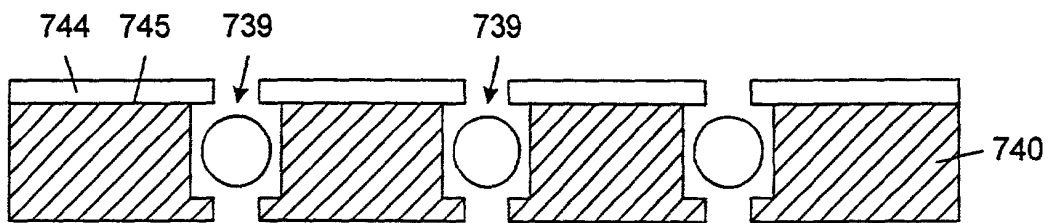


FIG. 26C

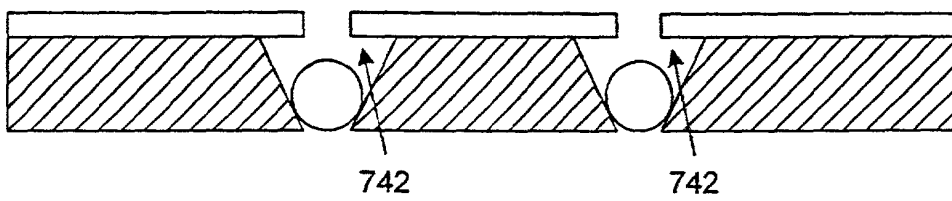


FIG. 26D

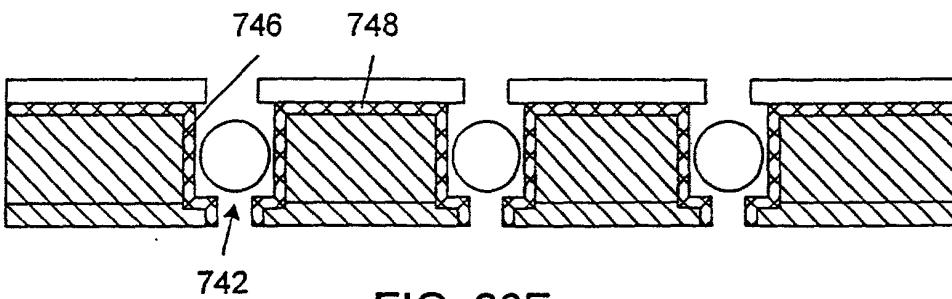


FIG. 26E

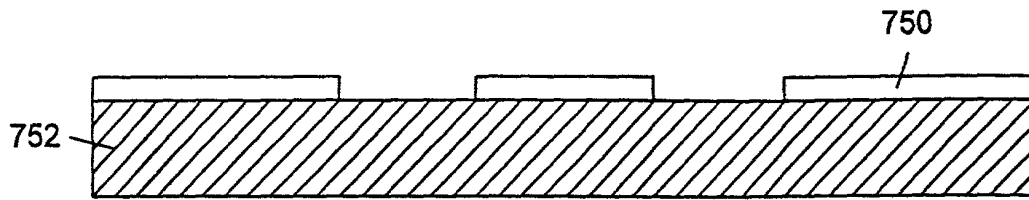


FIG. 27A

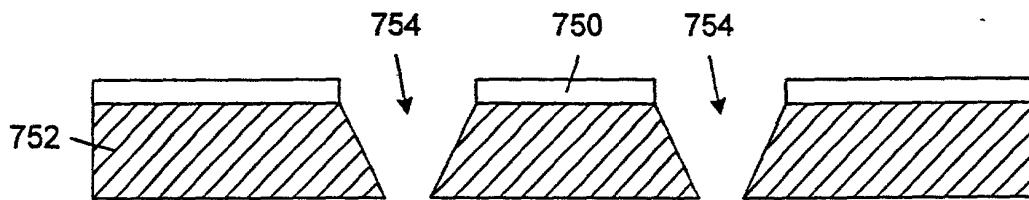


FIG. 27B

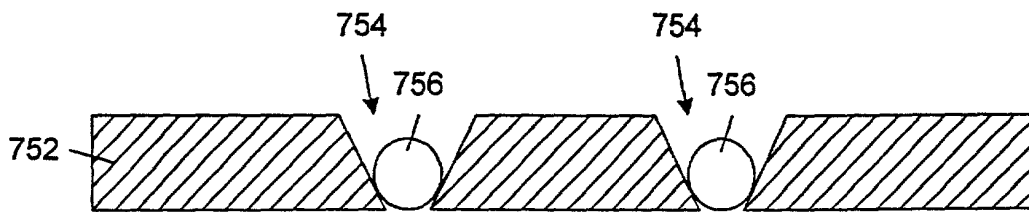


FIG. 27C

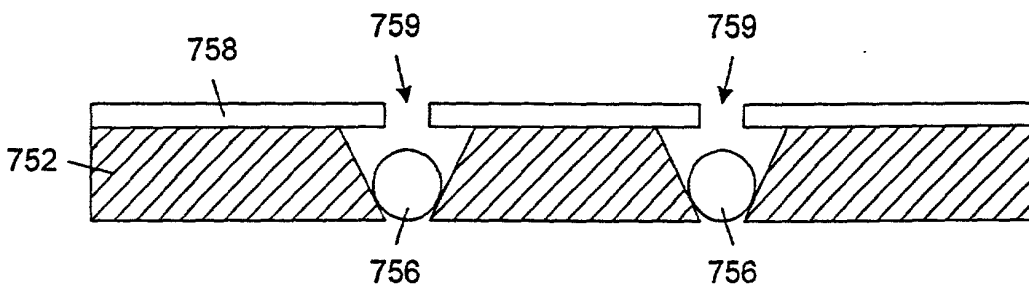


FIG. 27D

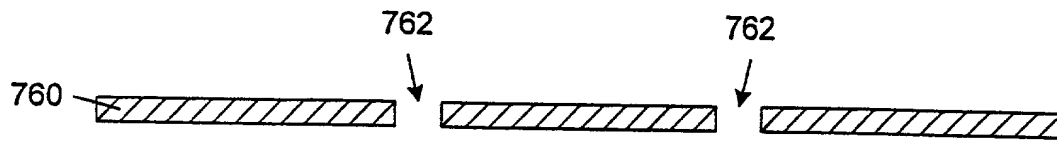


FIG. 28A

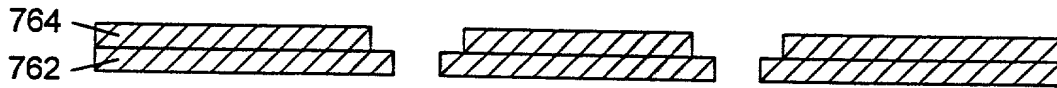


FIG. 28B

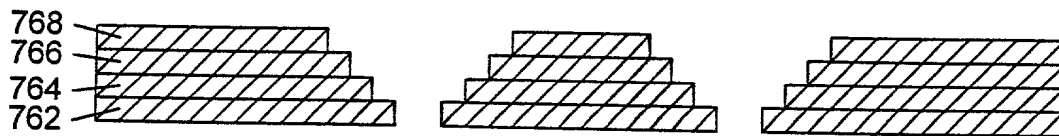


FIG. 28C

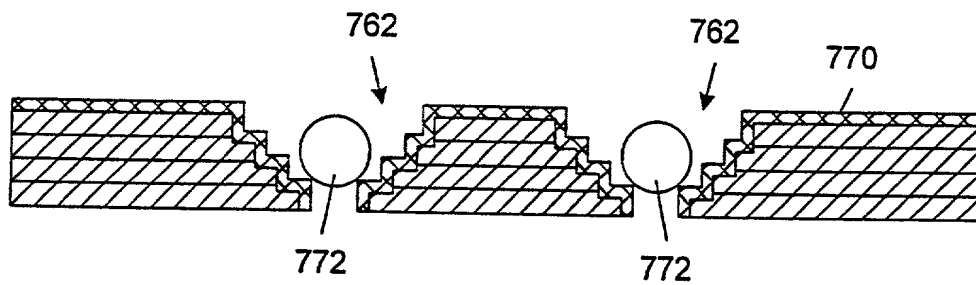


FIG. 28D

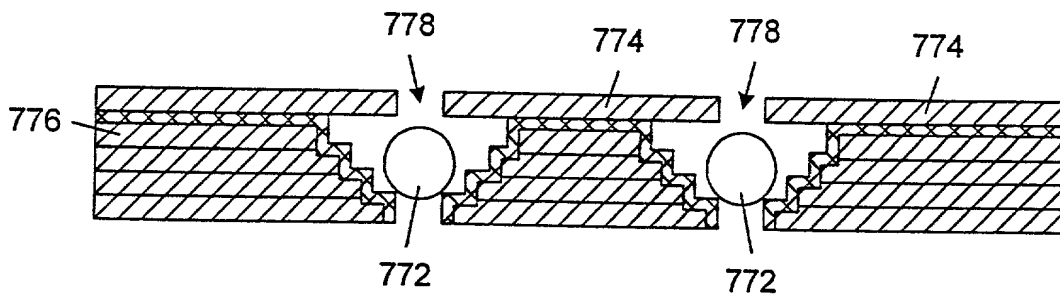


FIG. 28E

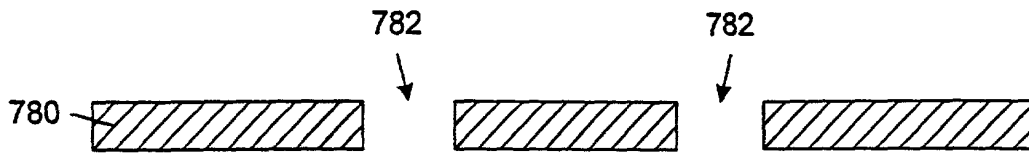


FIG. 29A

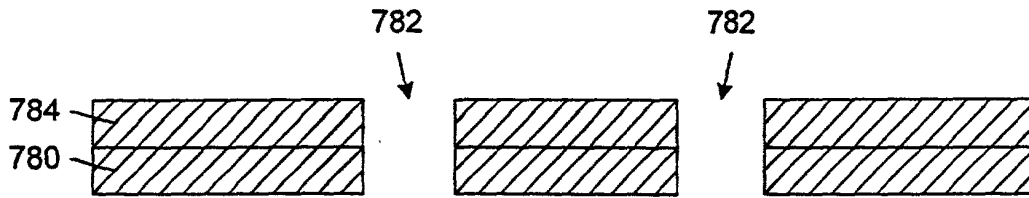


FIG. 29B

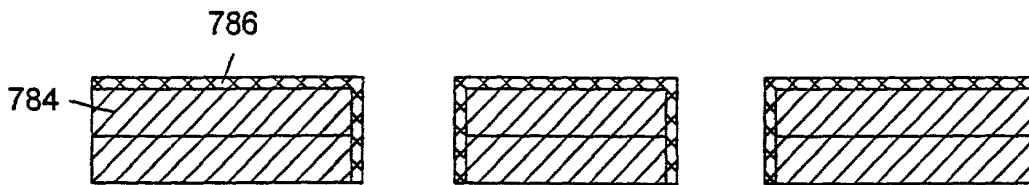


FIG. 29C

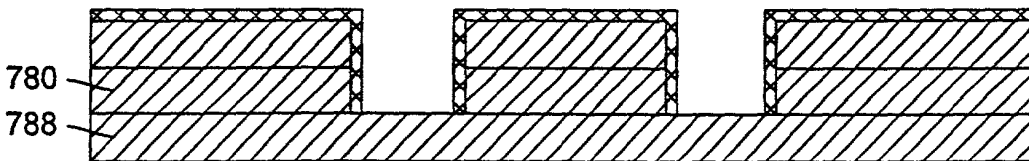


FIG. 29D

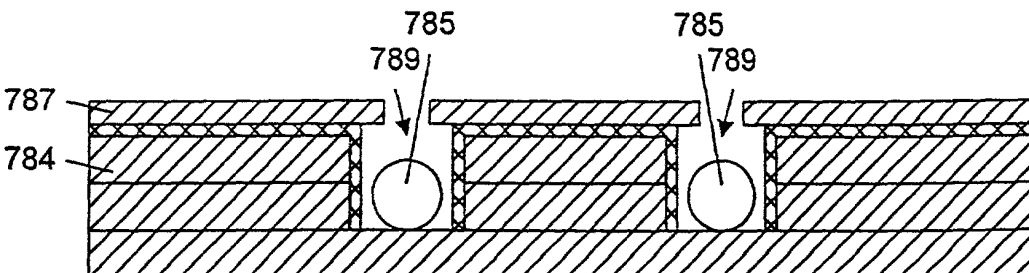


FIG. 29E

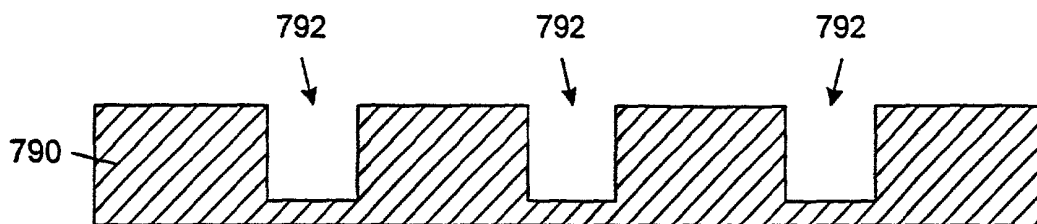


FIG. 30A

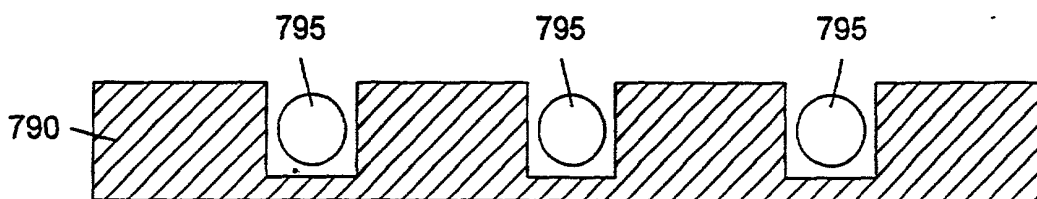


FIG. 30B

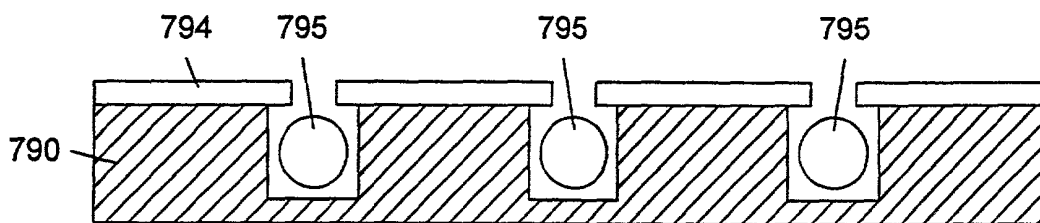


FIG. 30C

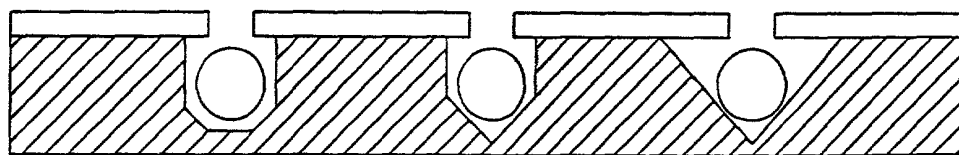


FIG. 30D

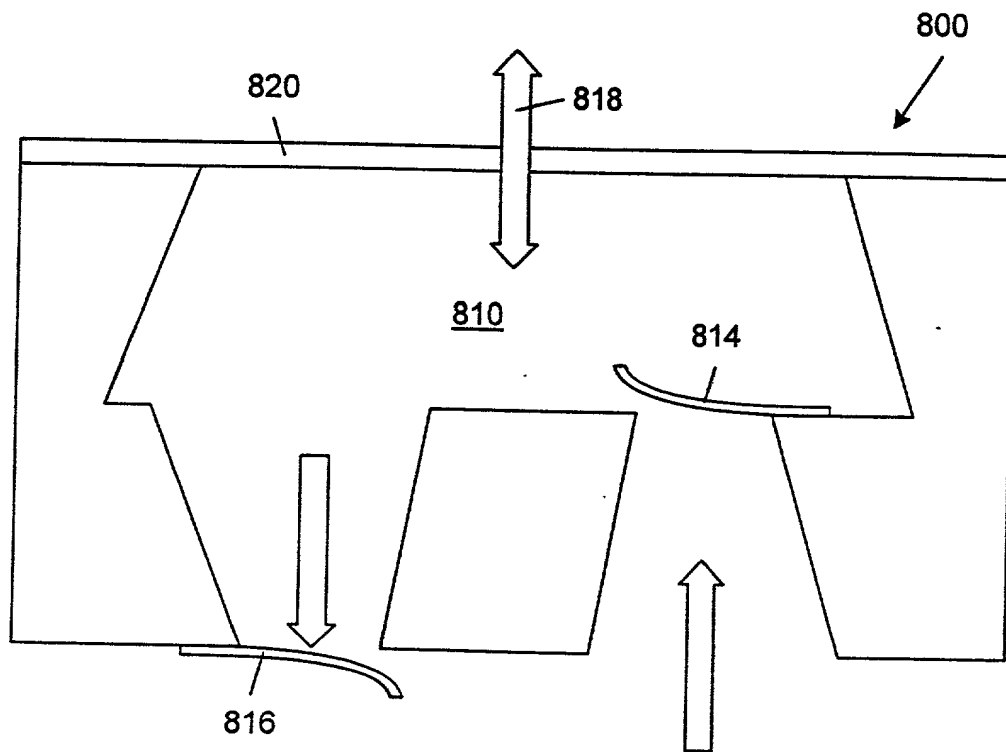


FIG. 31

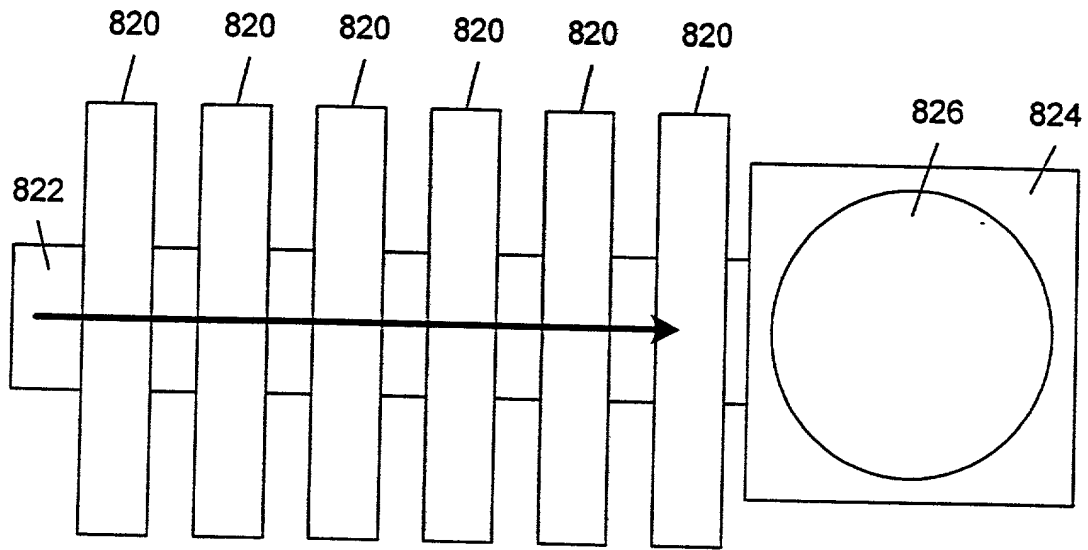


FIG. 32

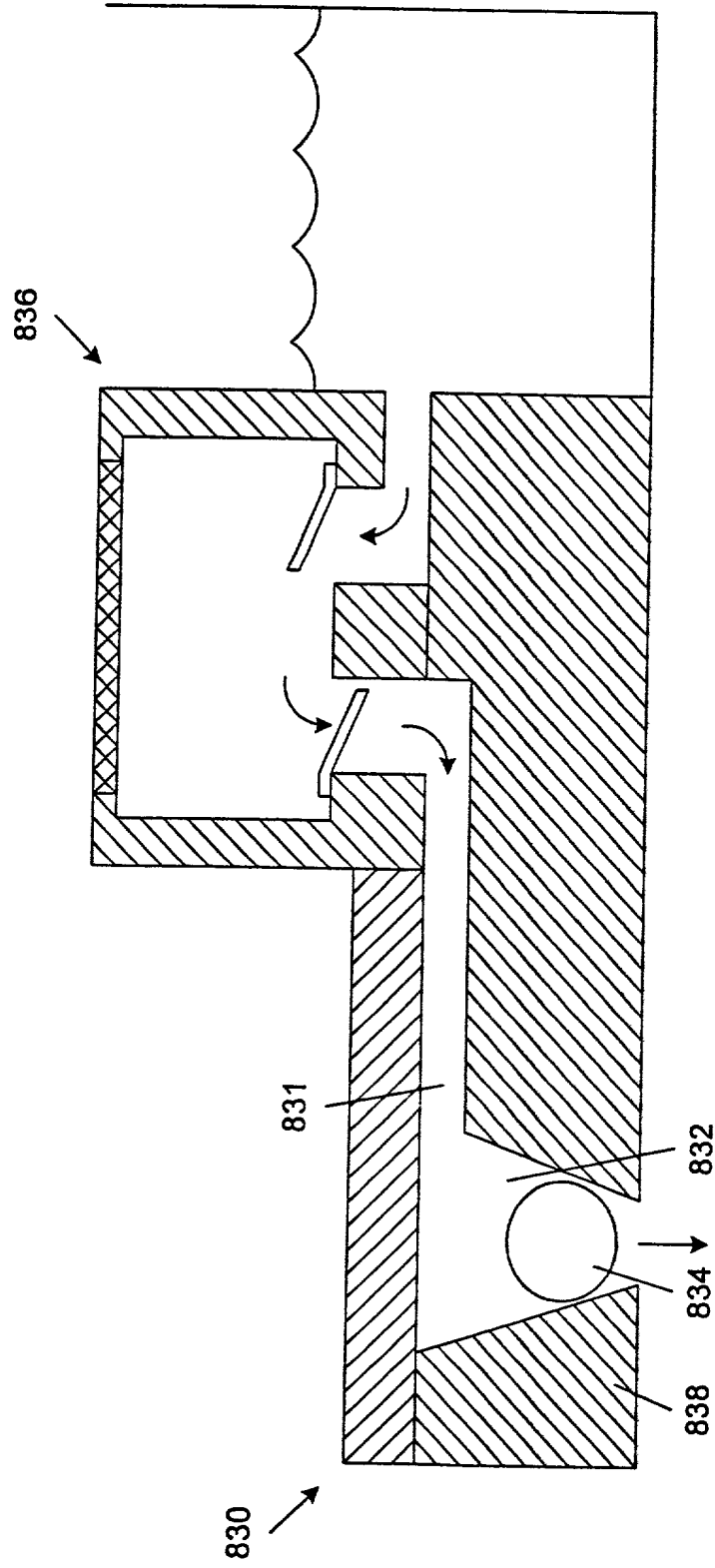


FIG. 33

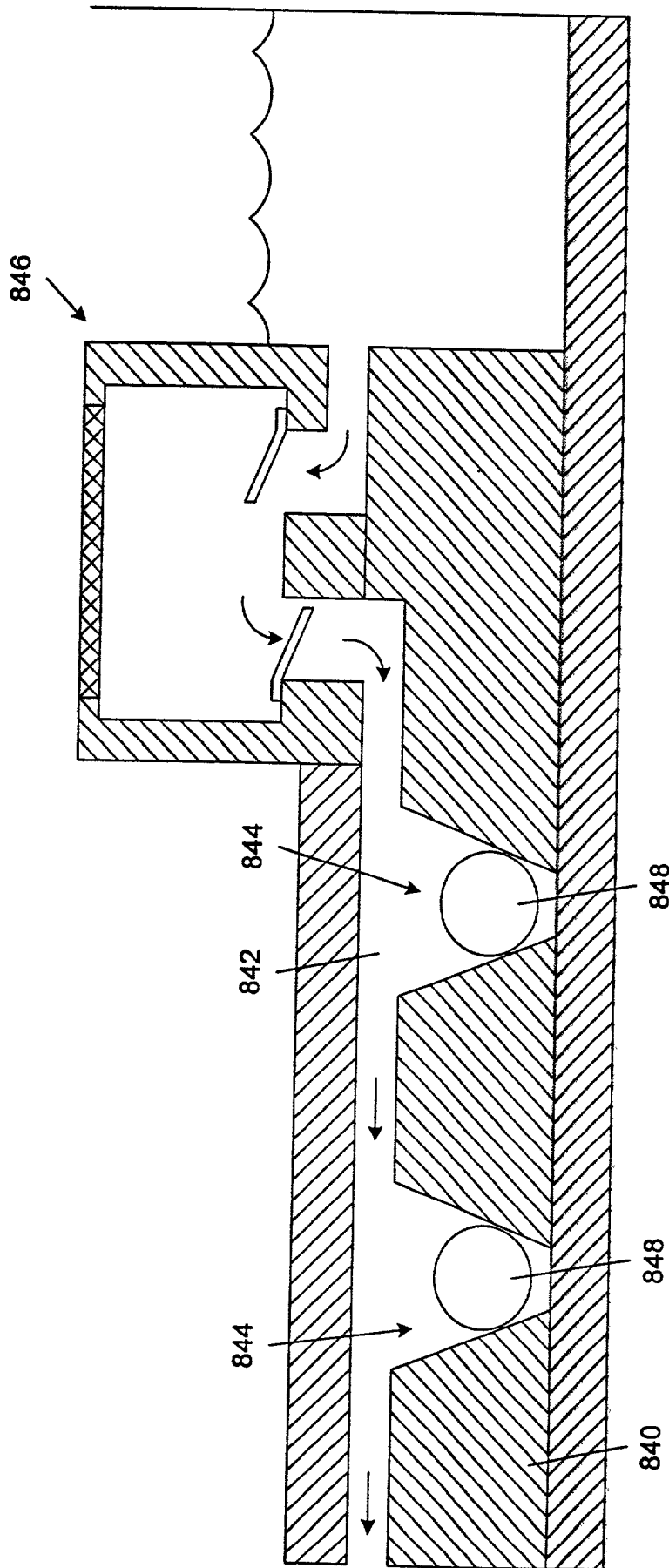


FIG. 34

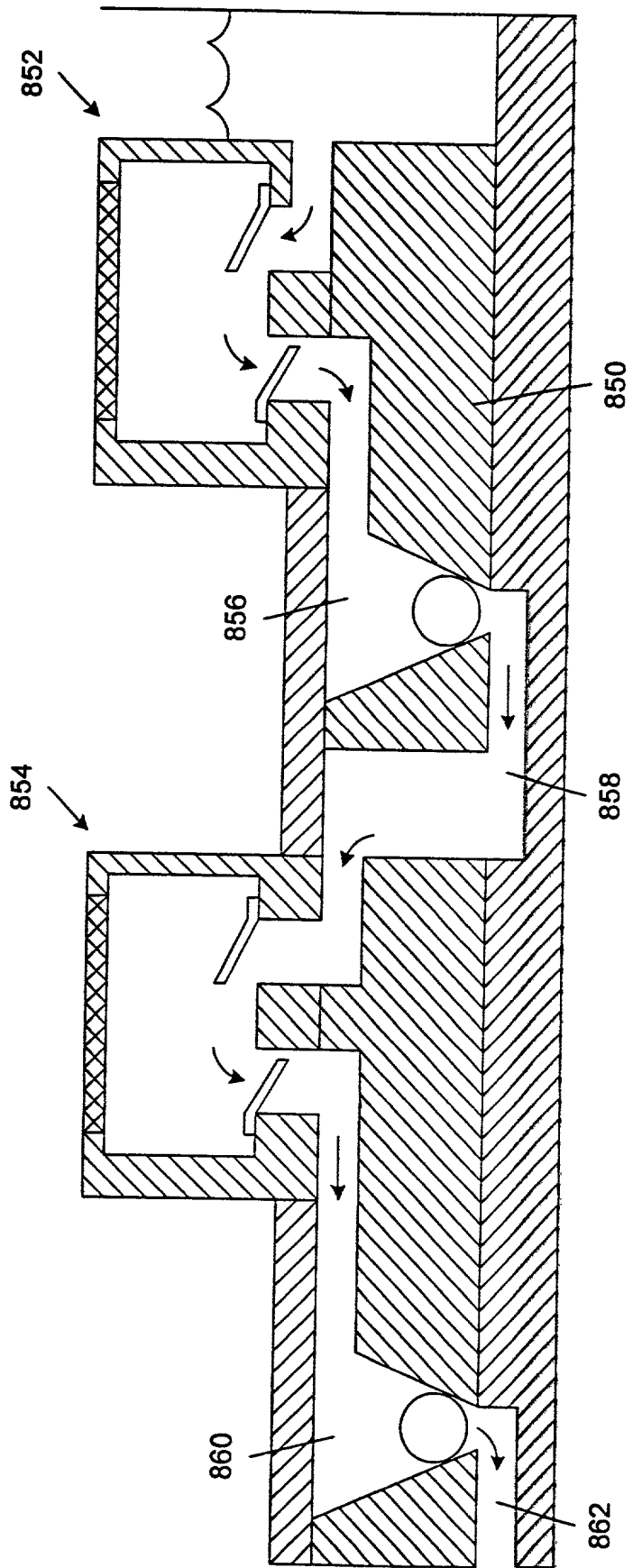


FIG. 35

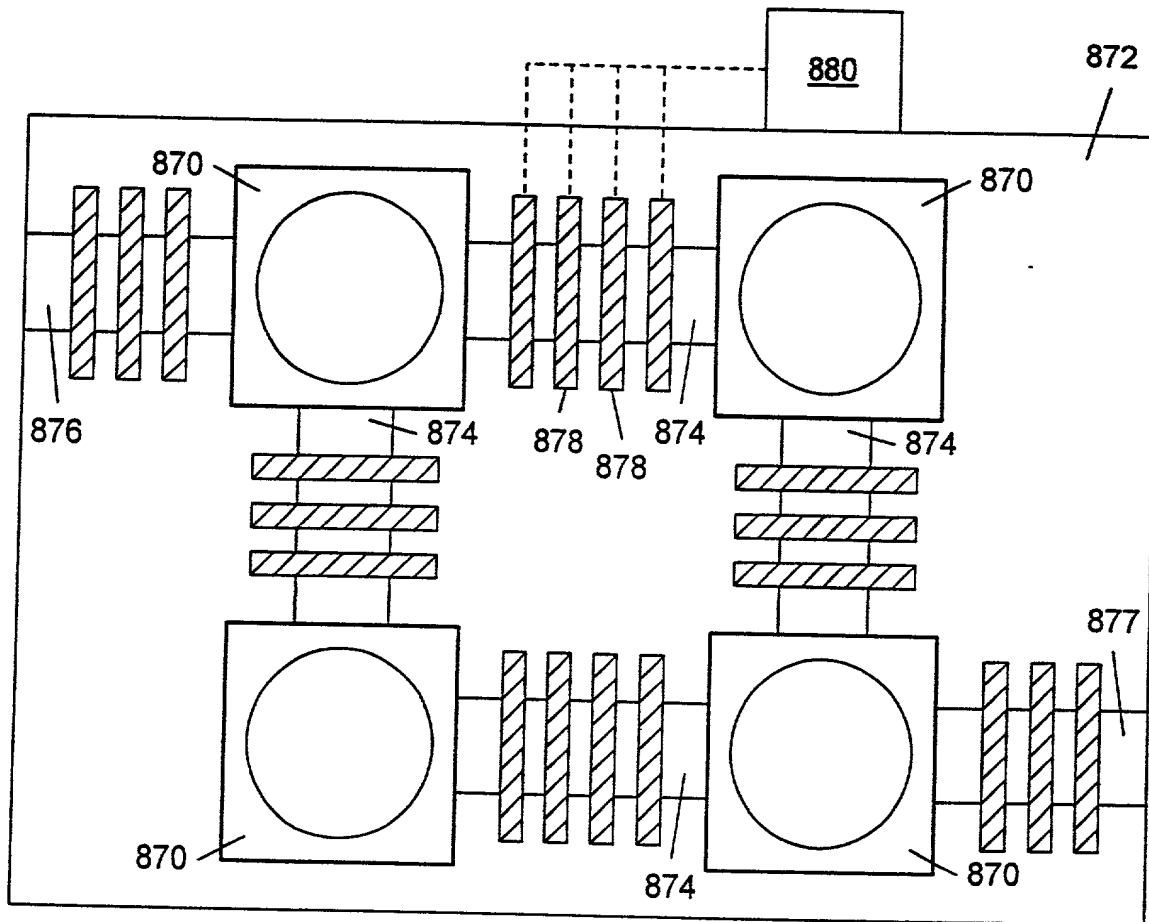


FIG. 36

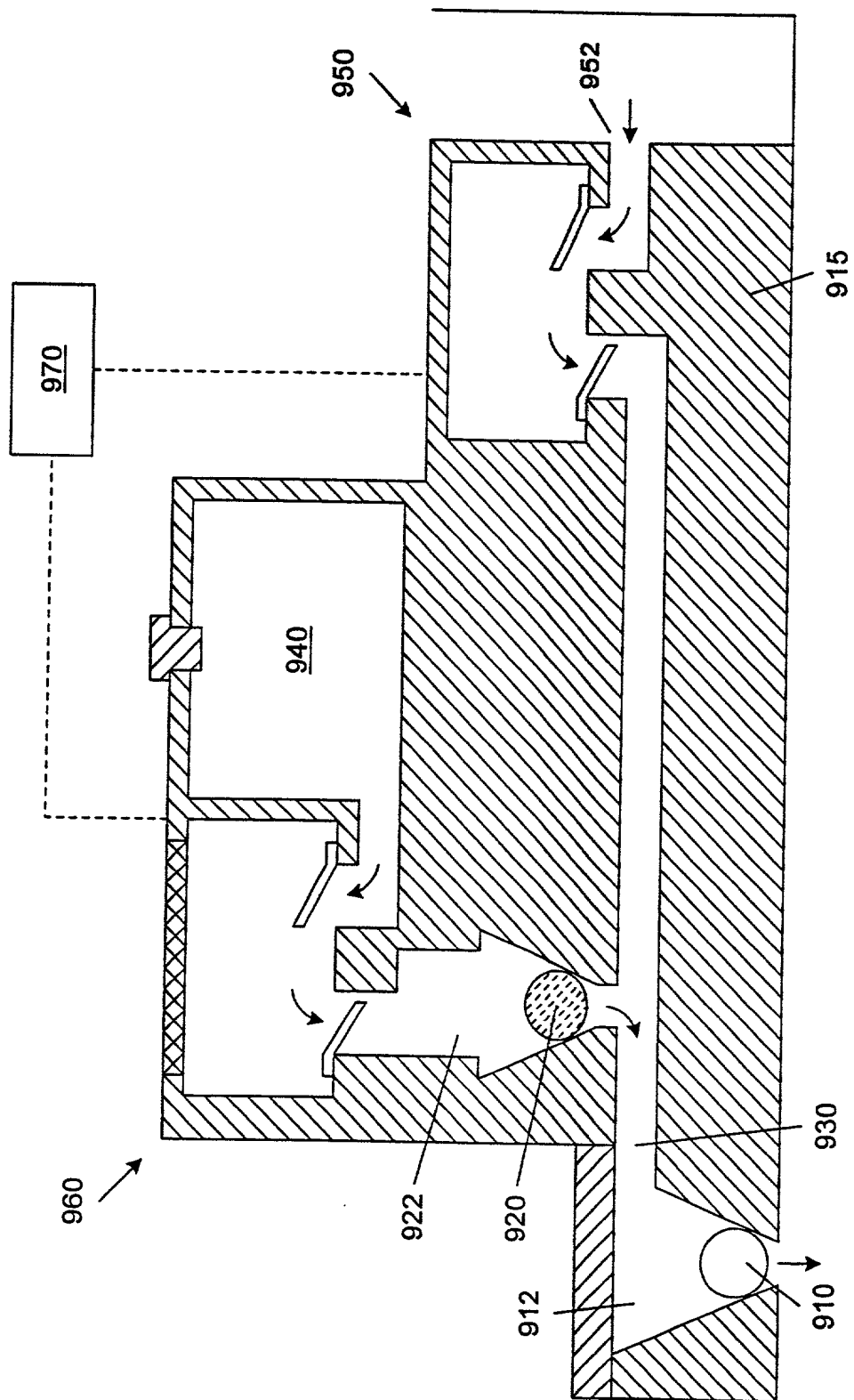


FIG. 37

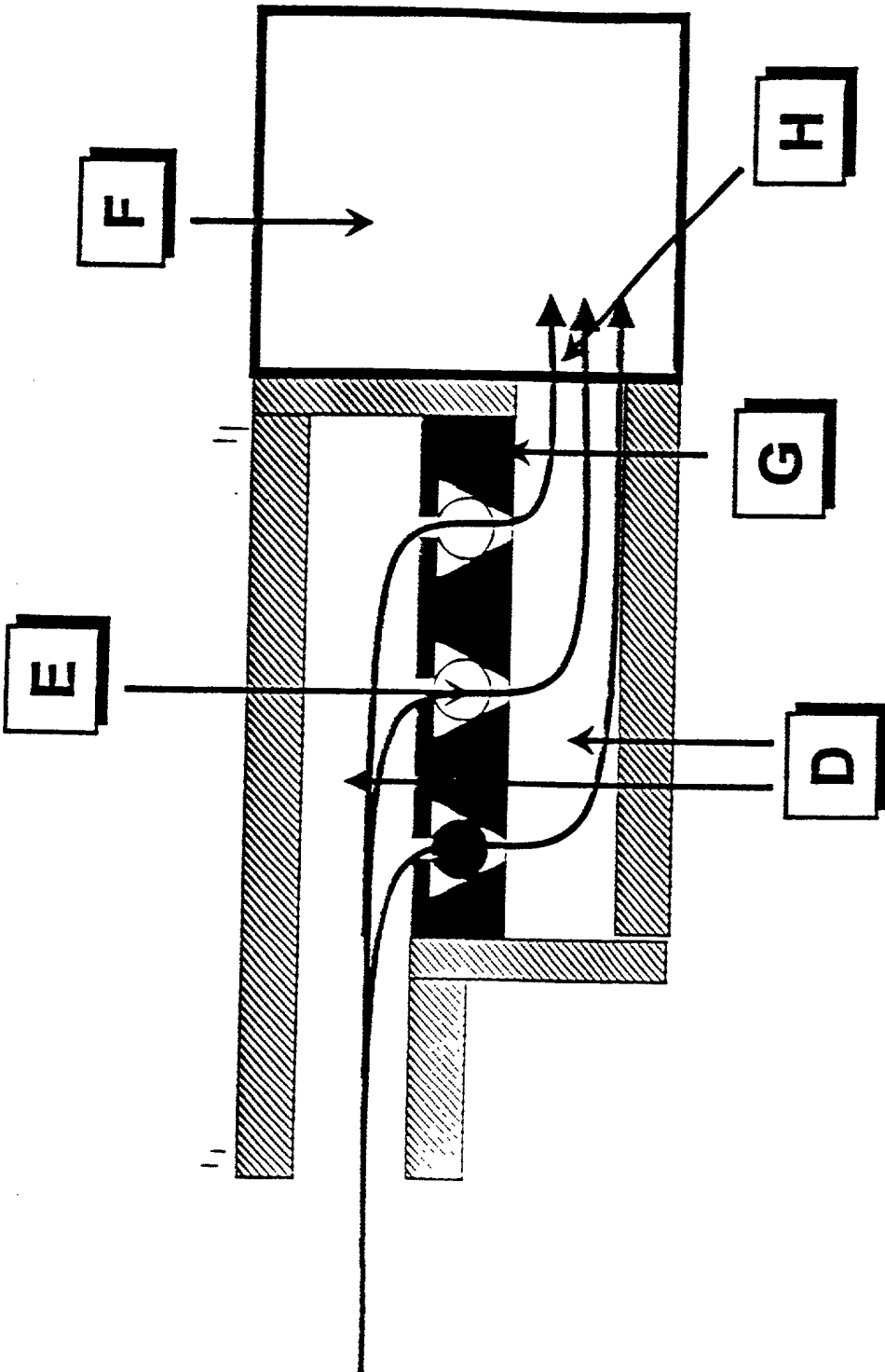


Figure 38

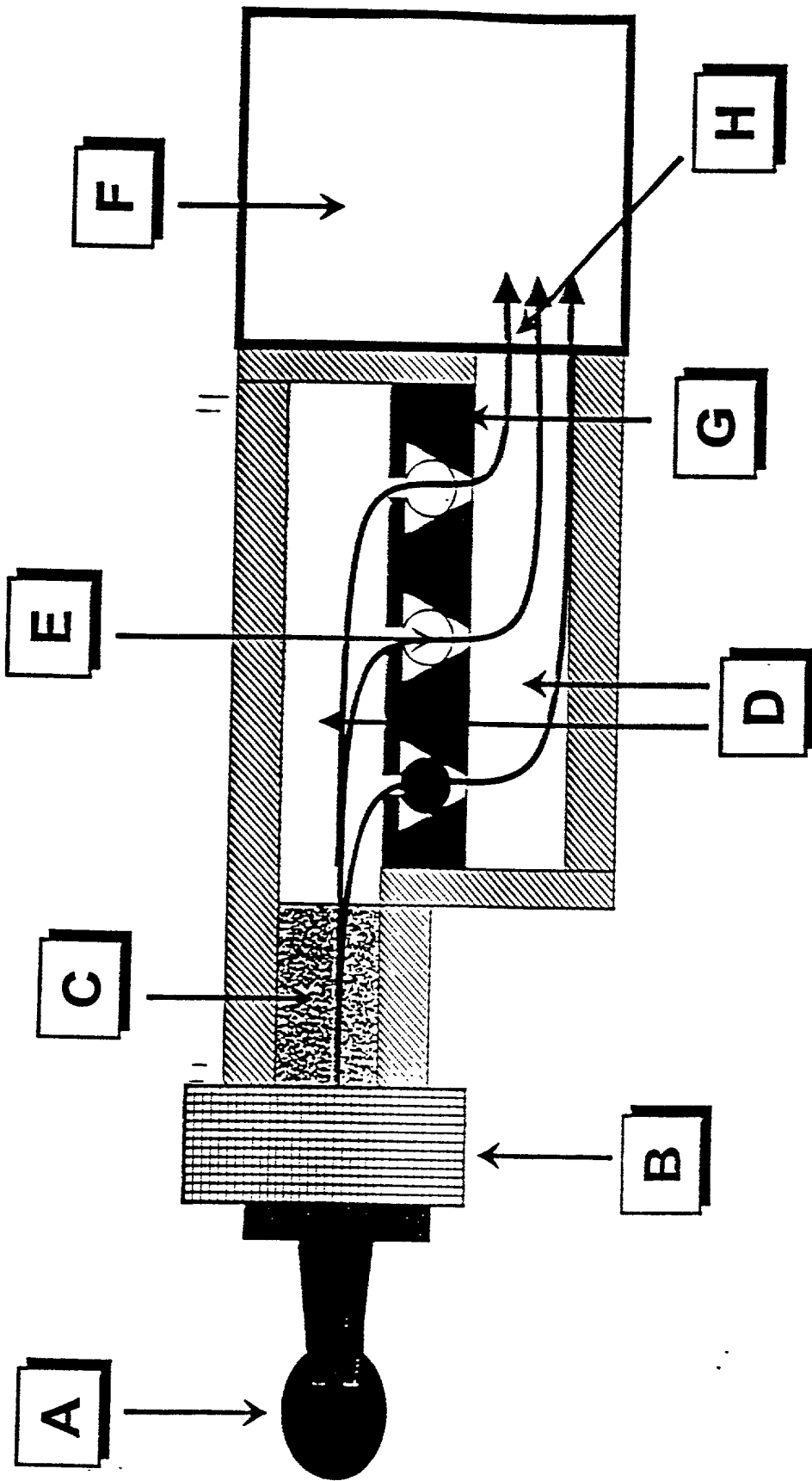
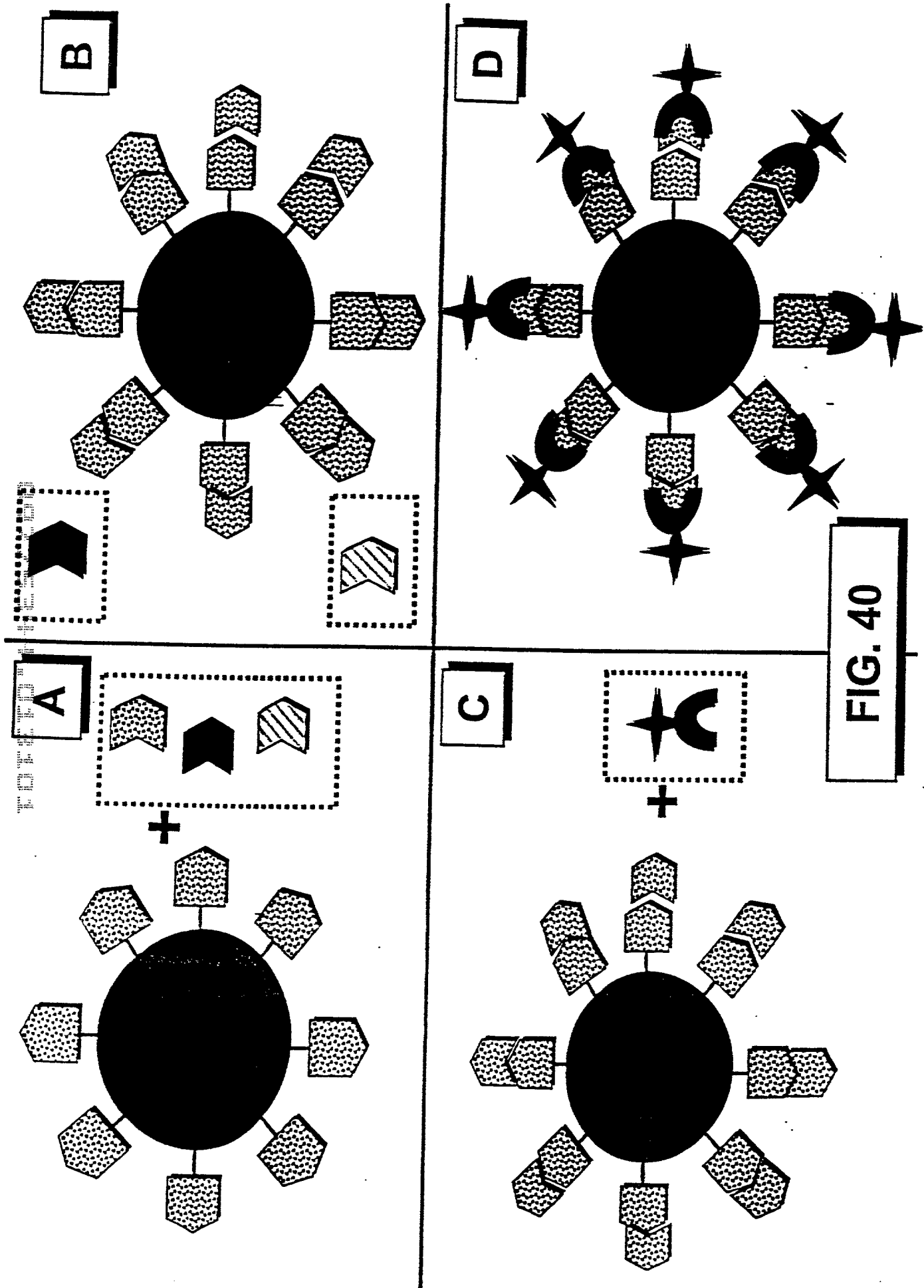


Figure 39



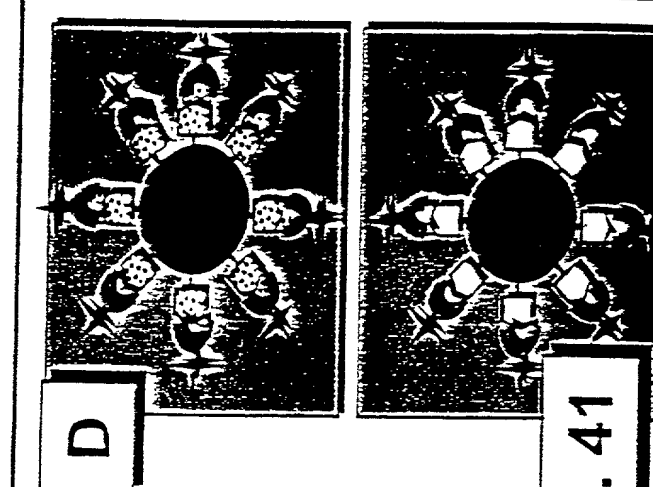
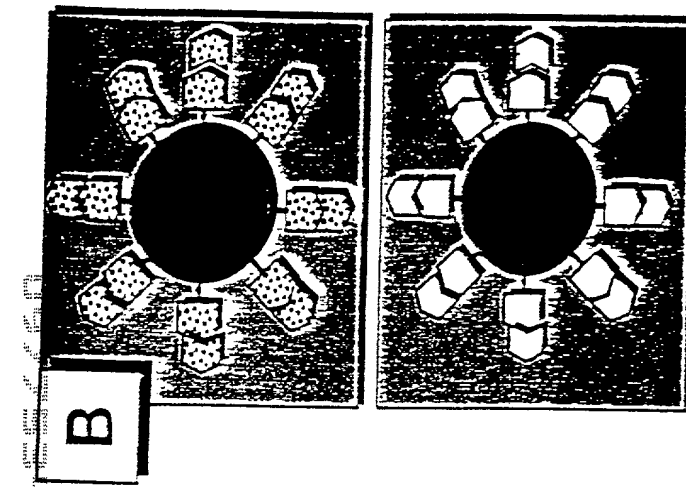
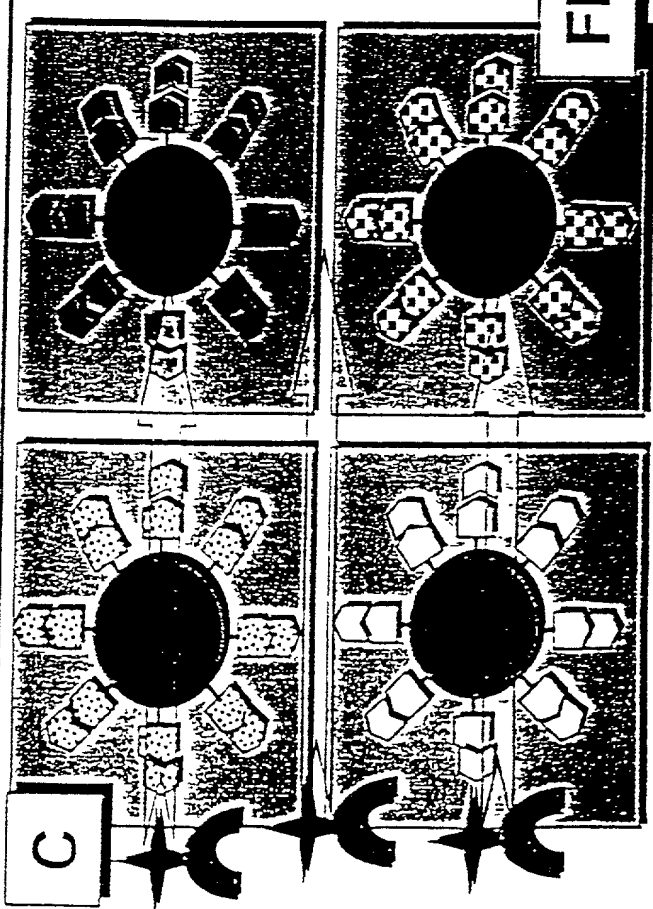
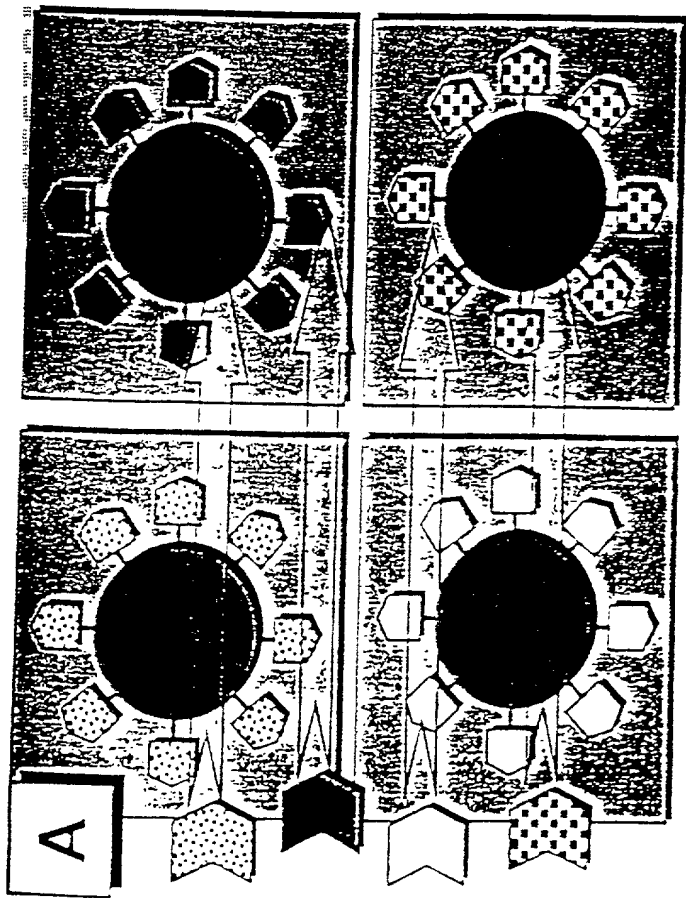
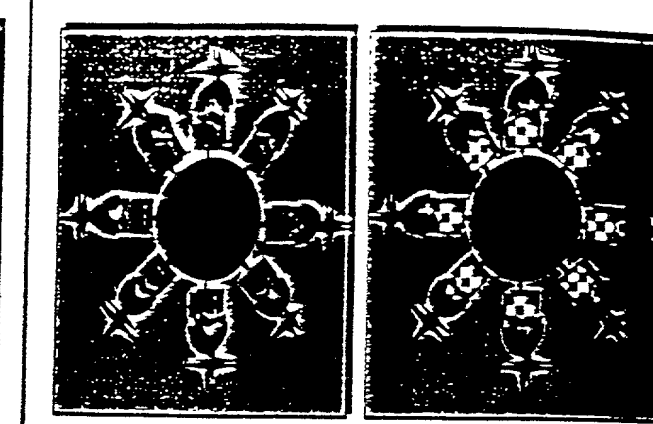
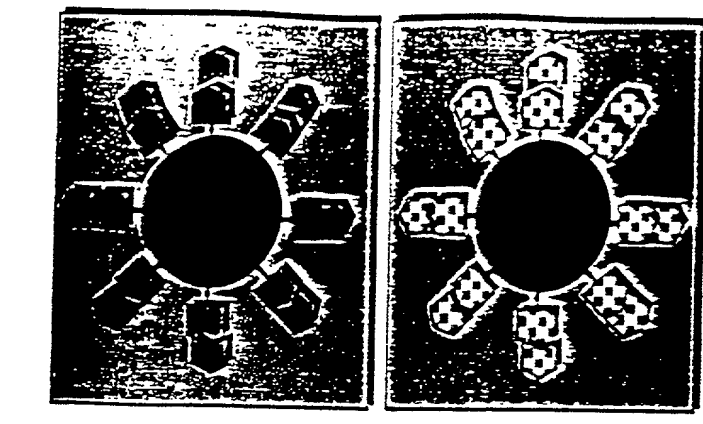


FIG. 41



Electronic Tongue Biological Sample Acquisition

Prototype 6/2/99

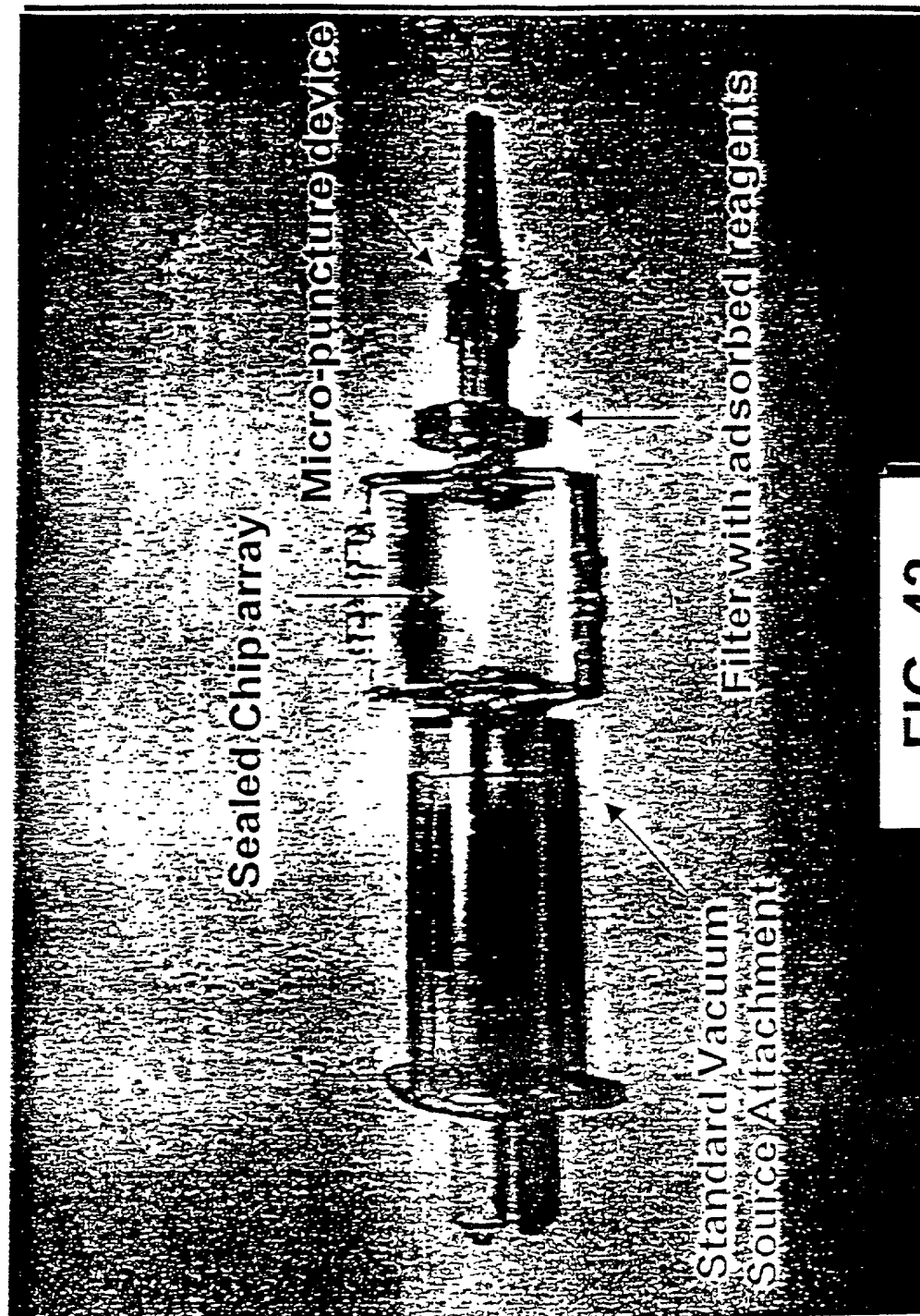


FIG. 42

FIG. 43

Forward Flow Direction

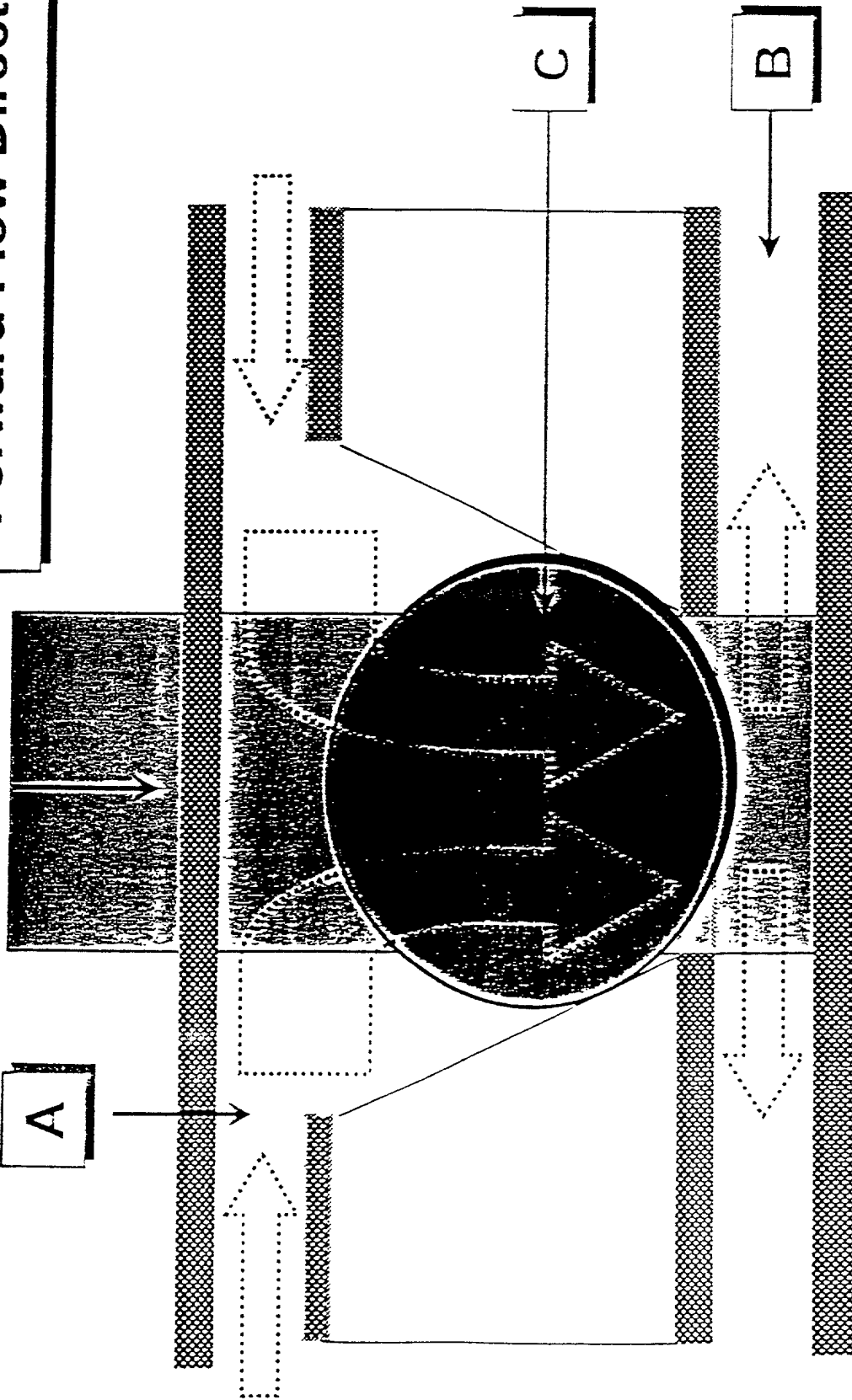


FIG. 43

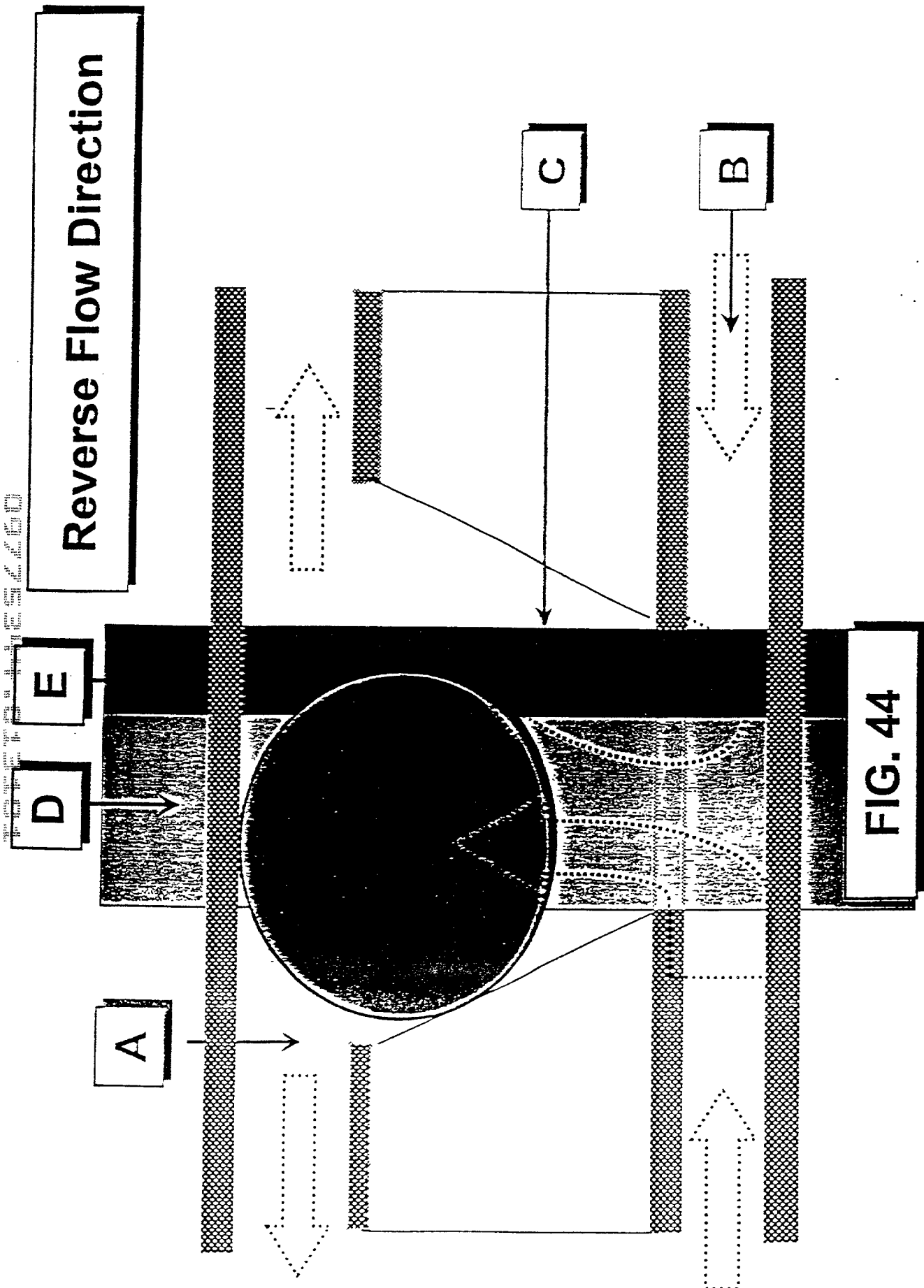


FIG. 44

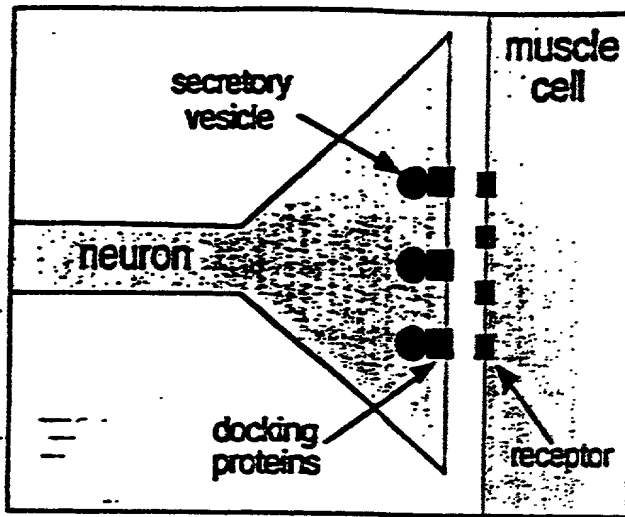


Fig. 45-A

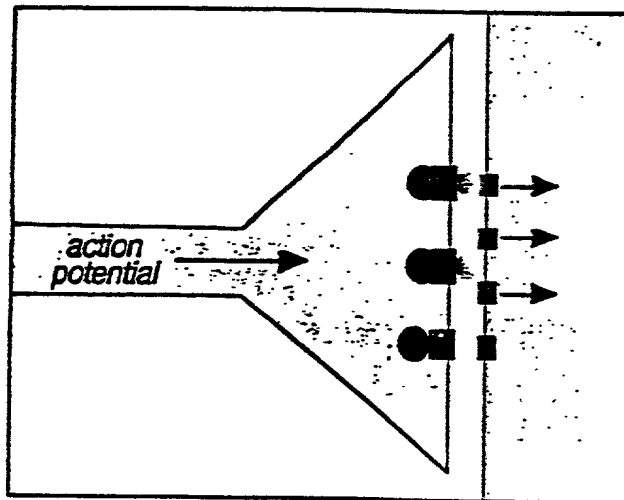


Fig. 45-B

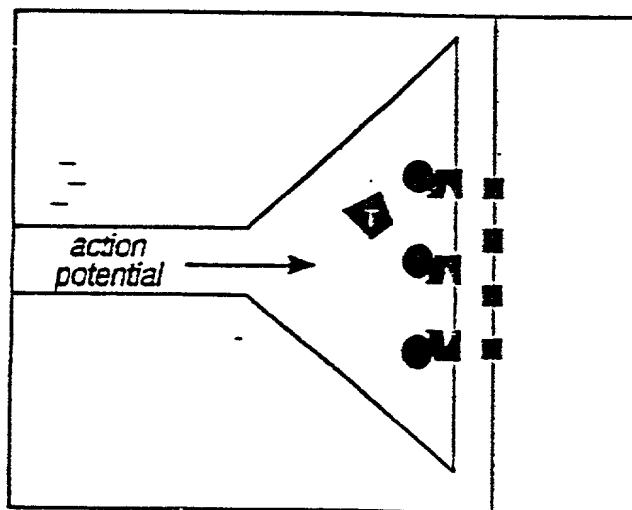


Fig. 45-C

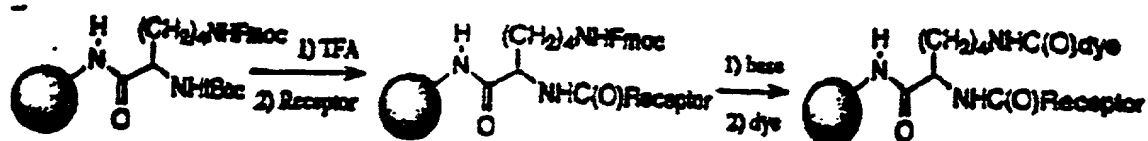


FIG. 45 D

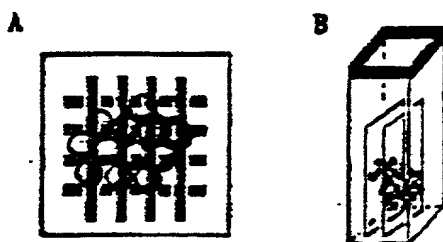


FIG. 46

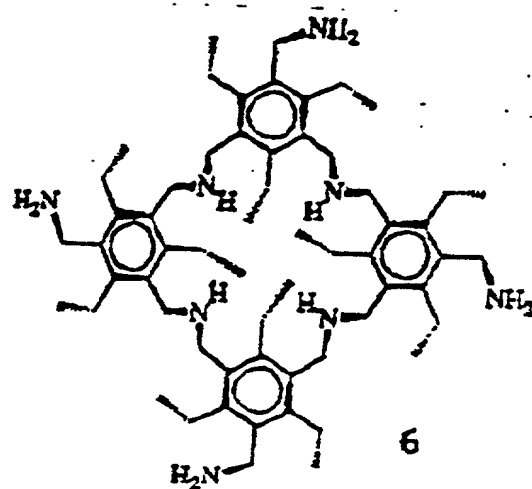
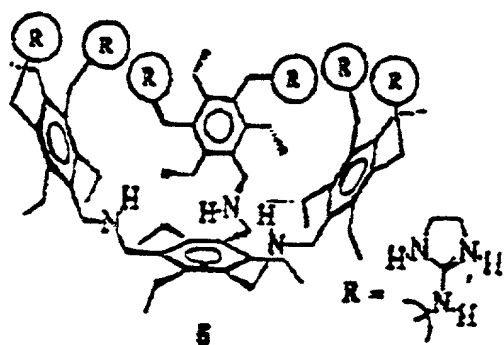
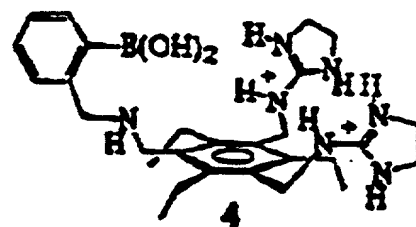
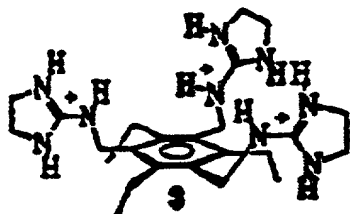


FIG. 47

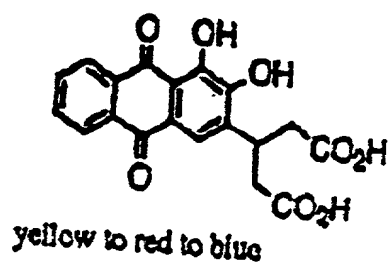
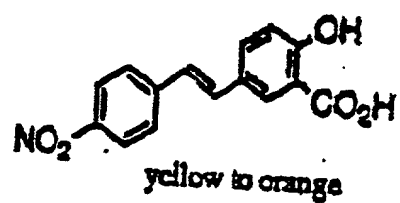
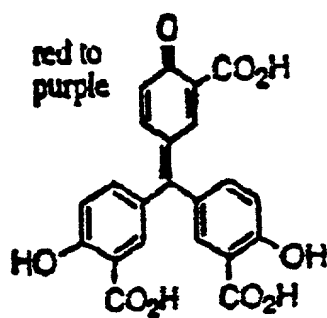
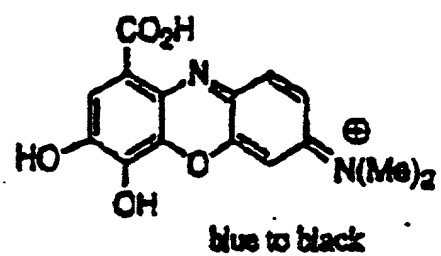
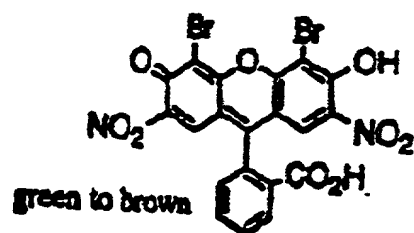


FIG. 48

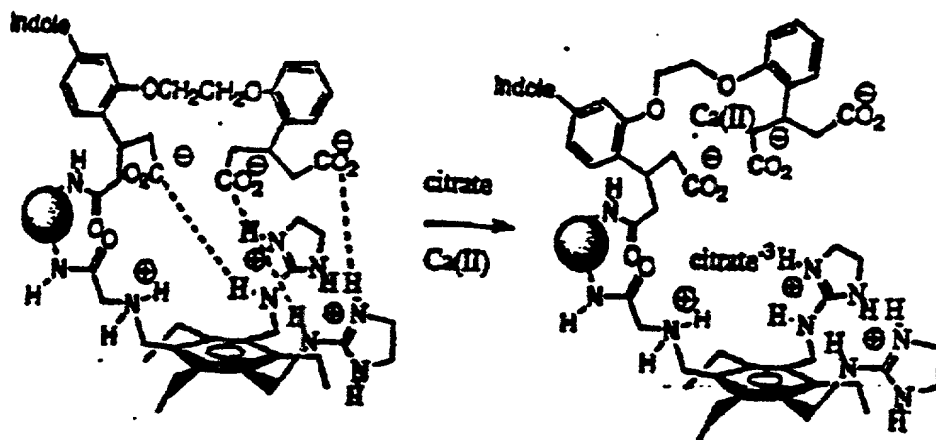


FIG. 51

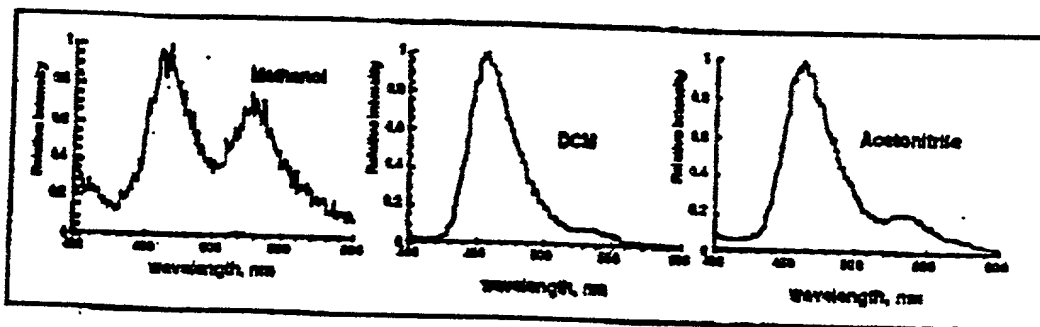


FIG. 52

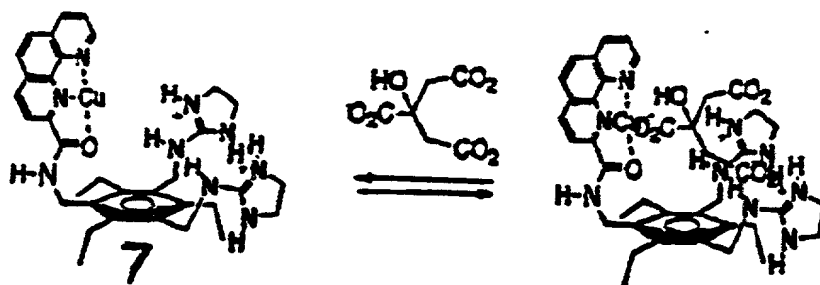


FIG. 53

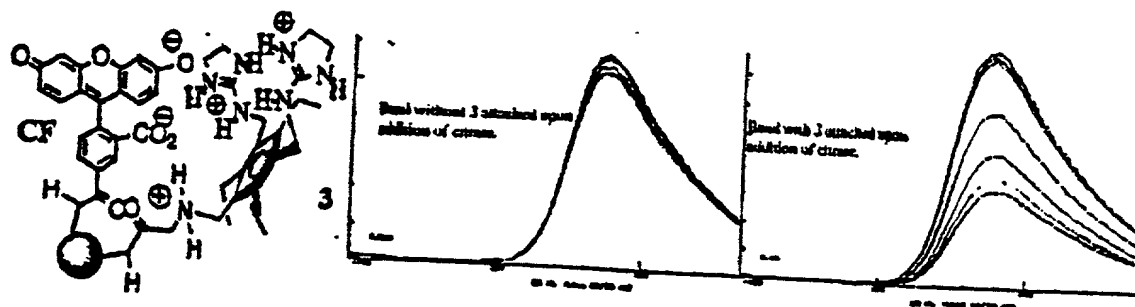


FIG. 54

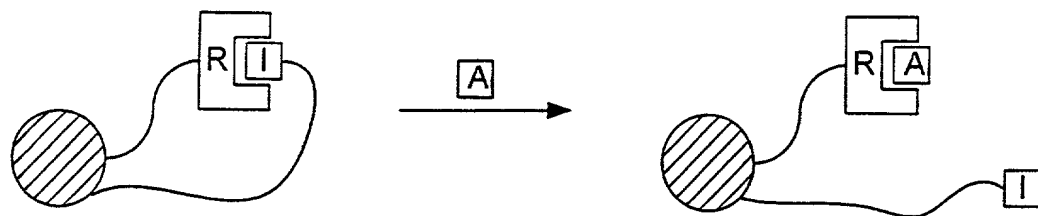


FIG. 55A

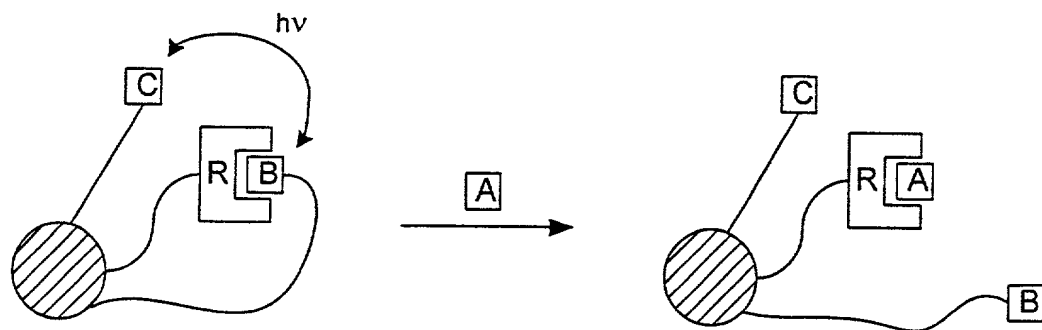


FIG. 55B

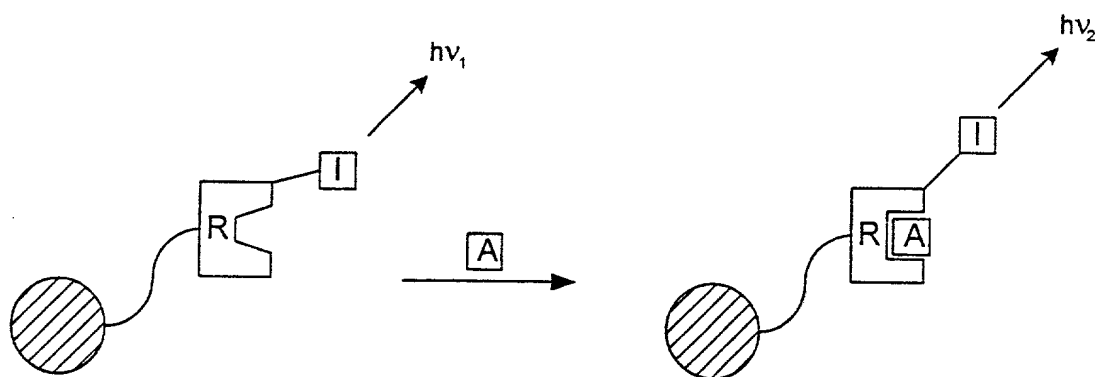


FIG. 55C

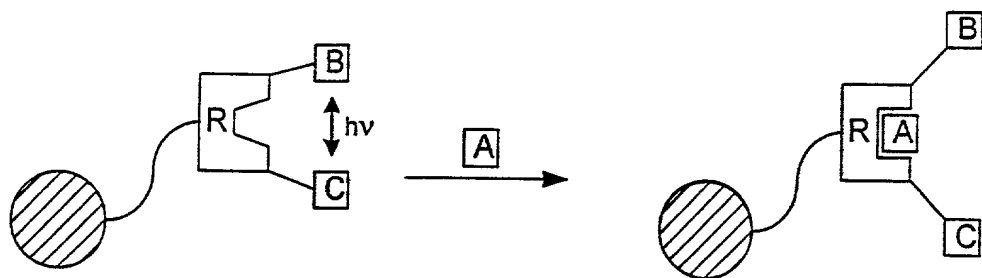


FIG. 55D

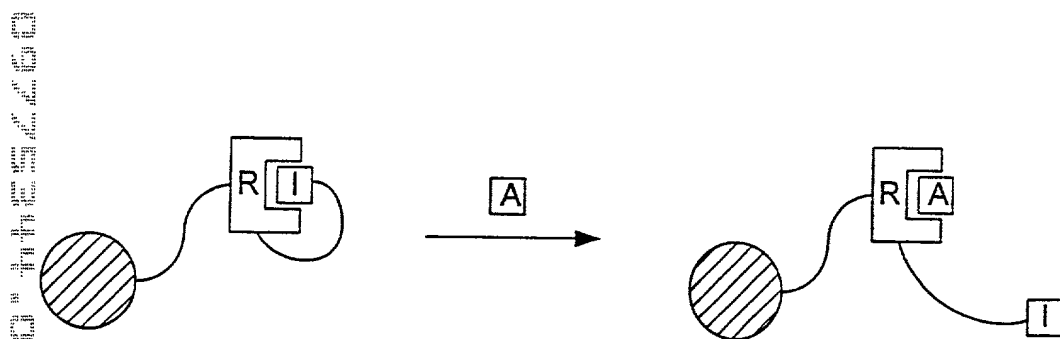


FIG. 55E

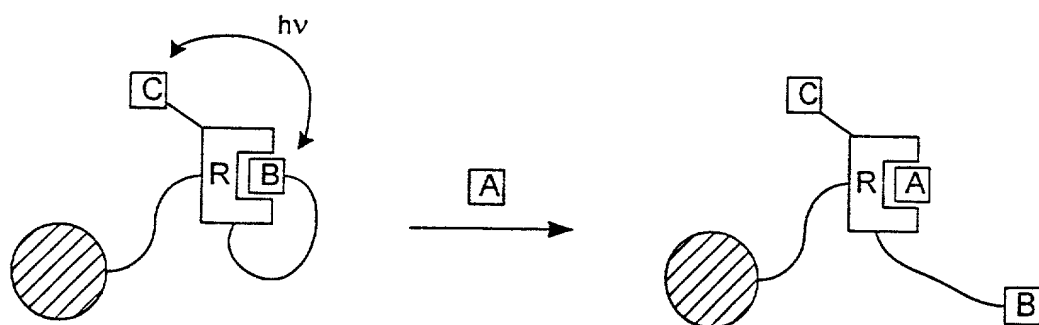


FIG. 55F

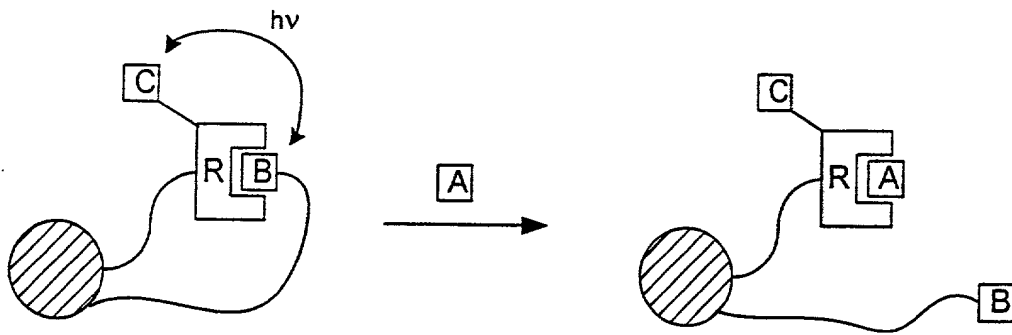


FIG. 55G

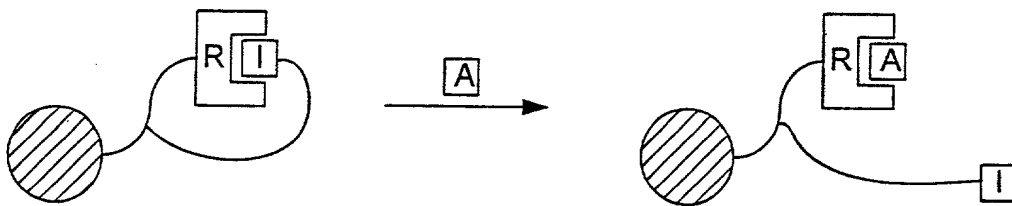


FIG. 55H

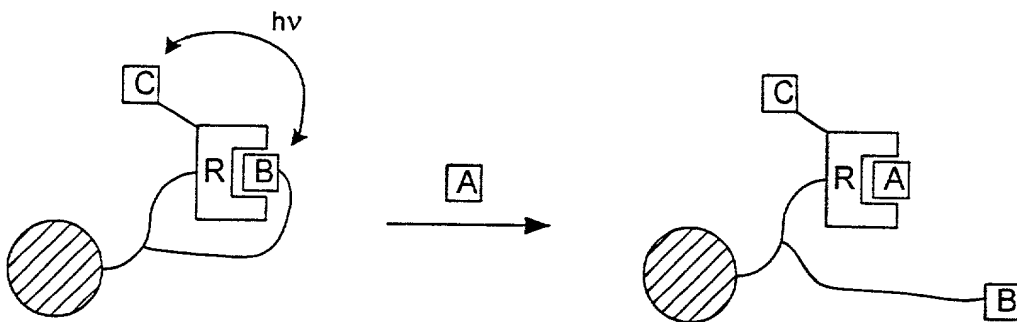


FIG. 55I

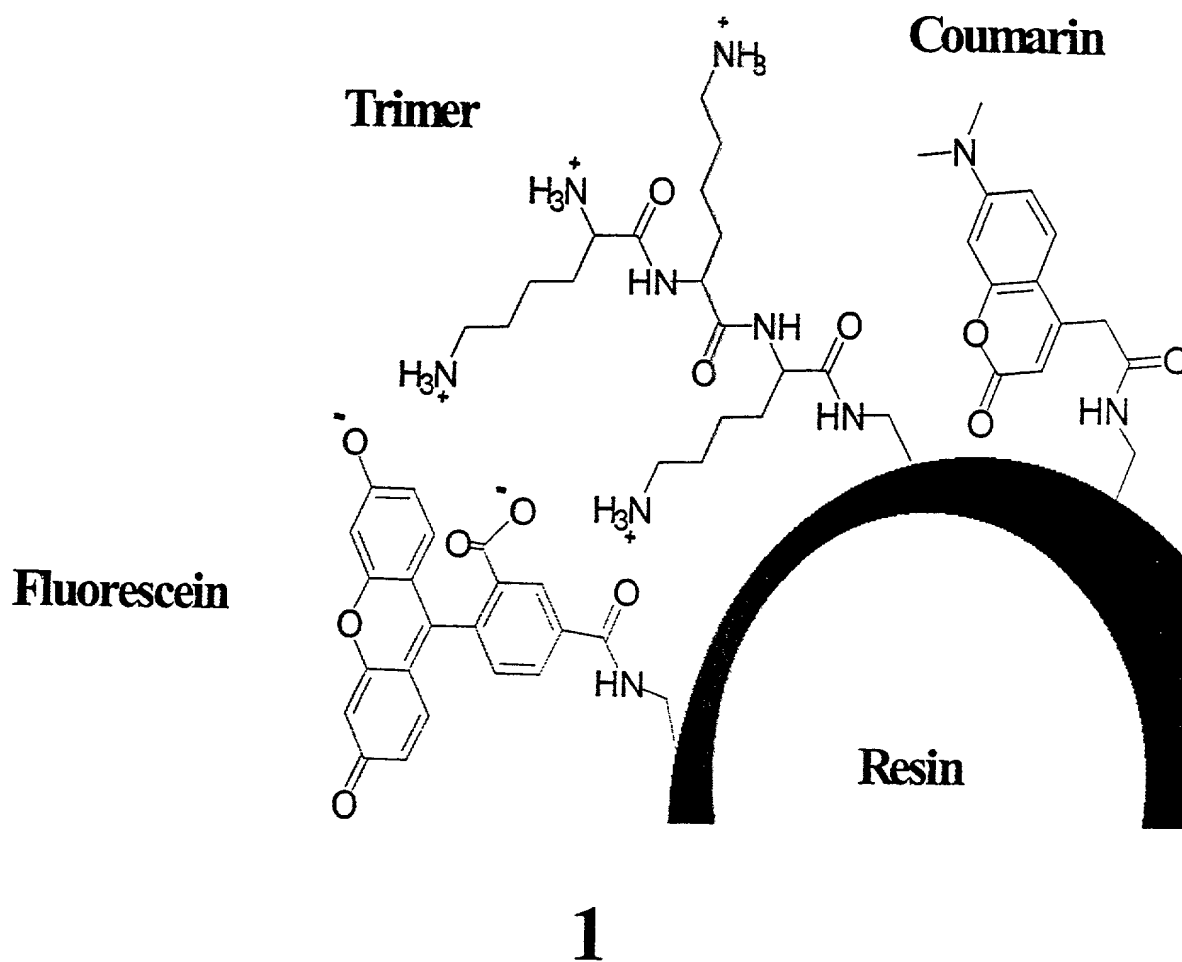


FIG. 56

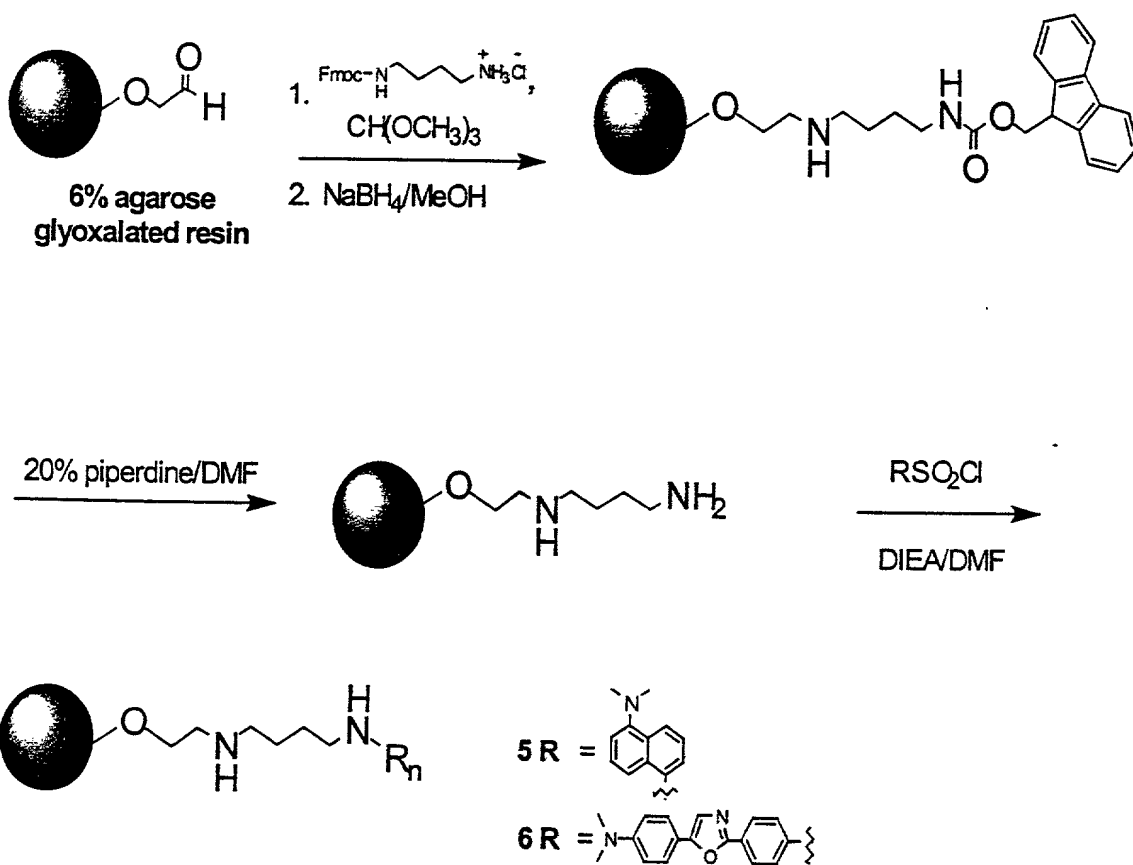


FIG. 57

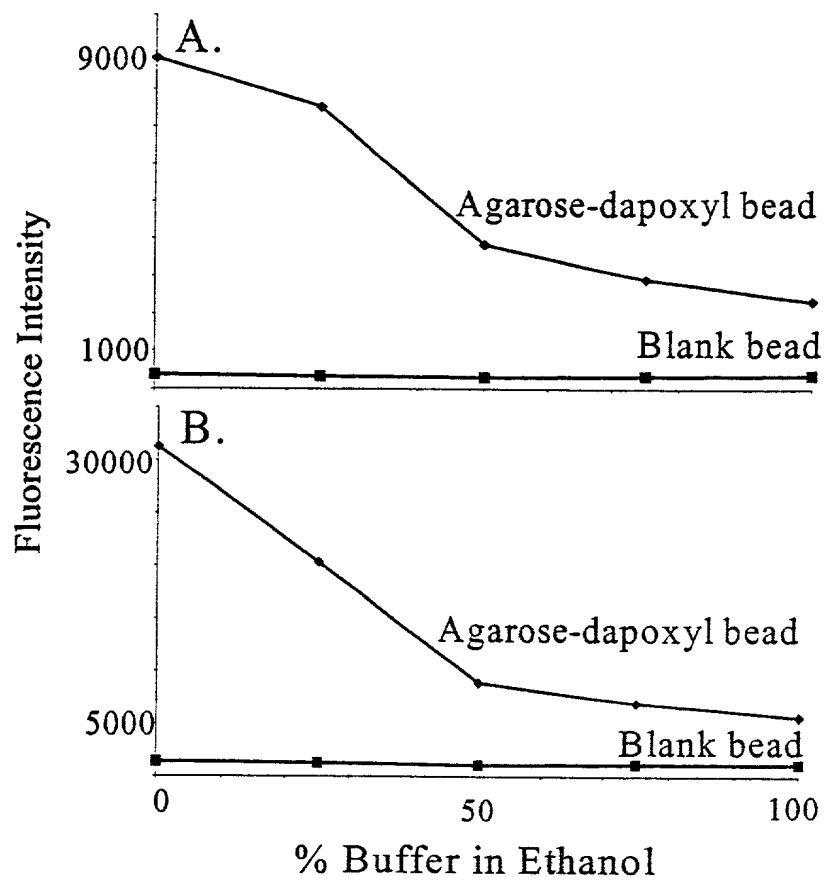


FIG. 58

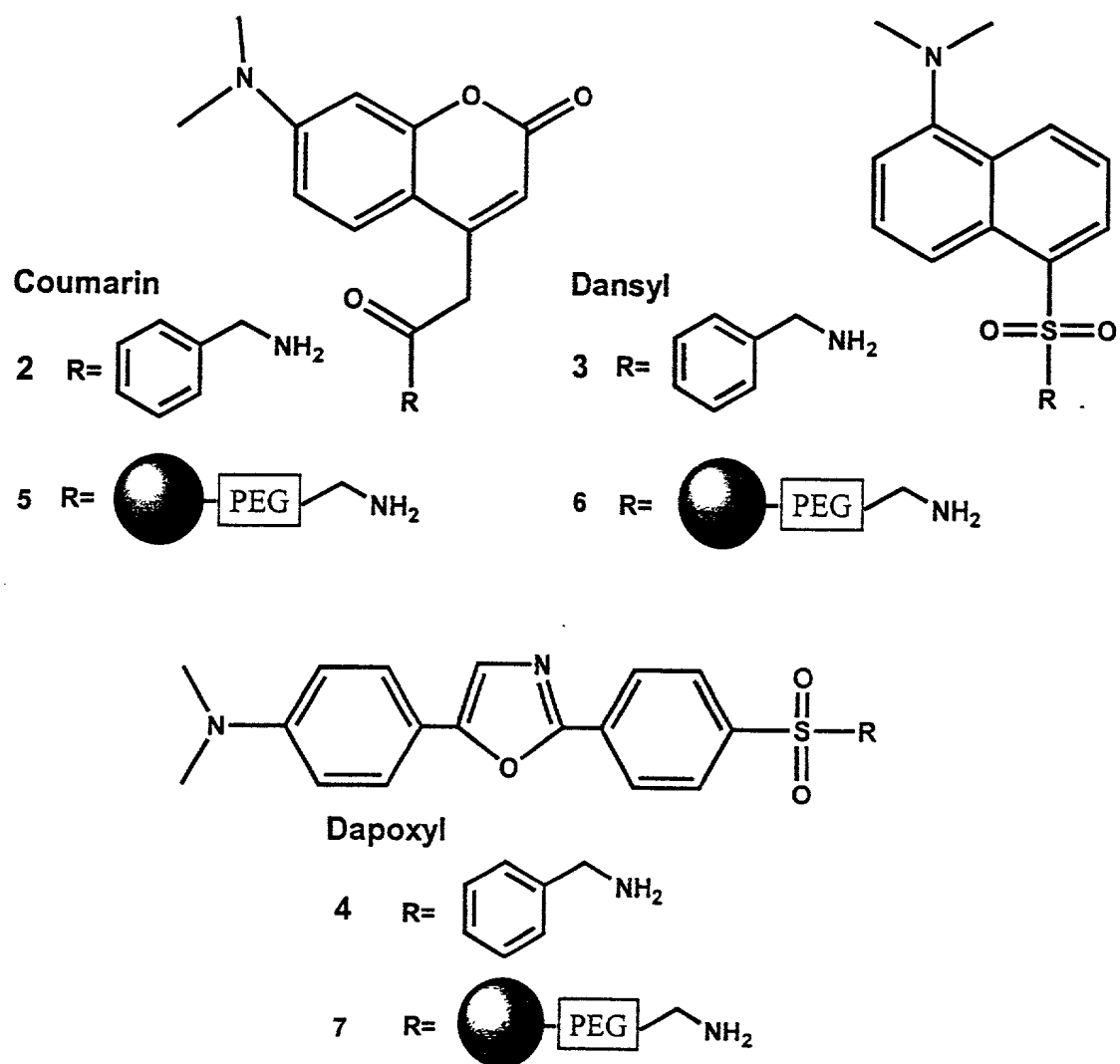


FIG. 59

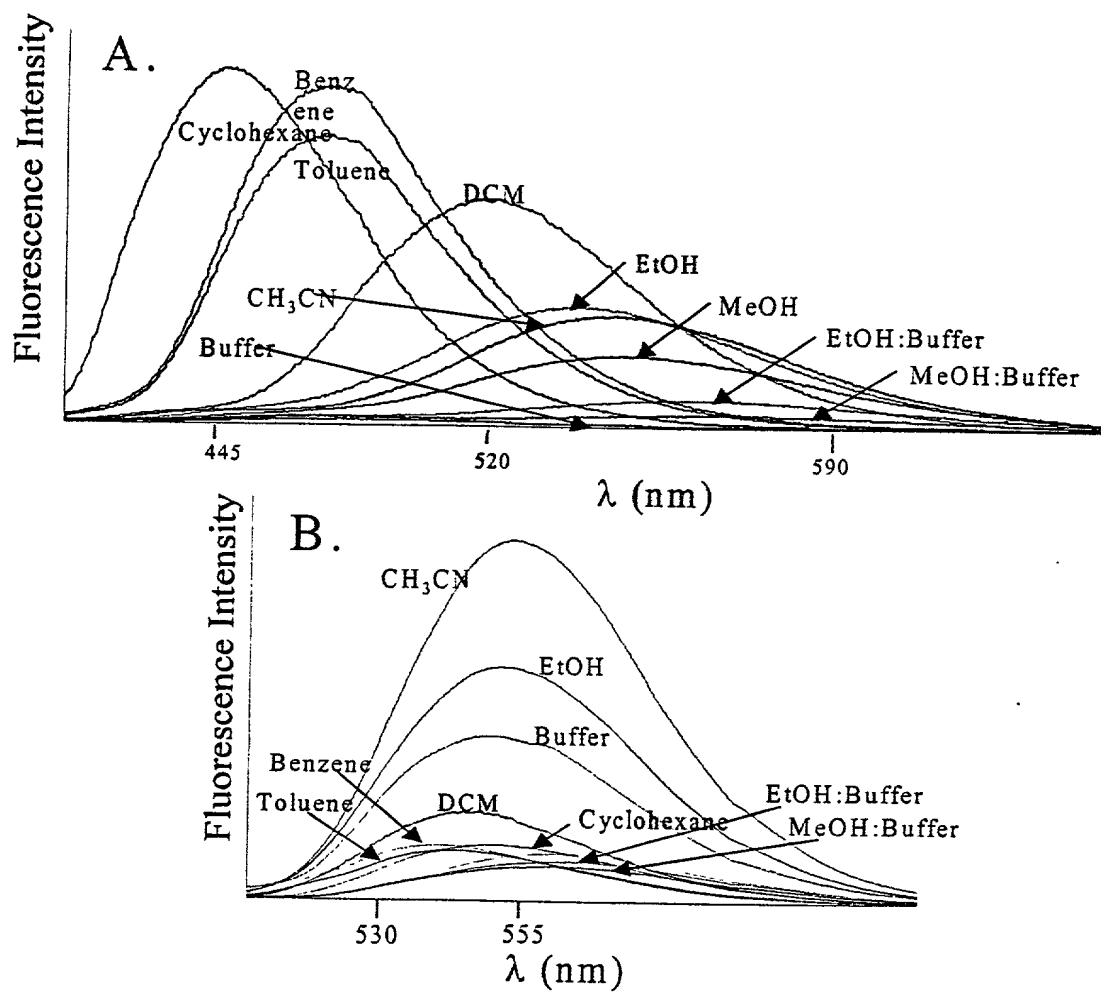
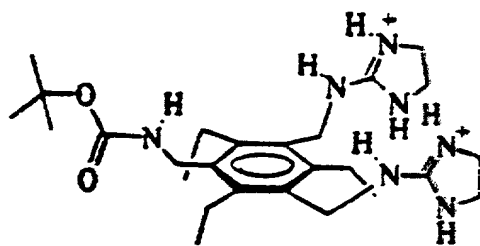


FIG. 60



1

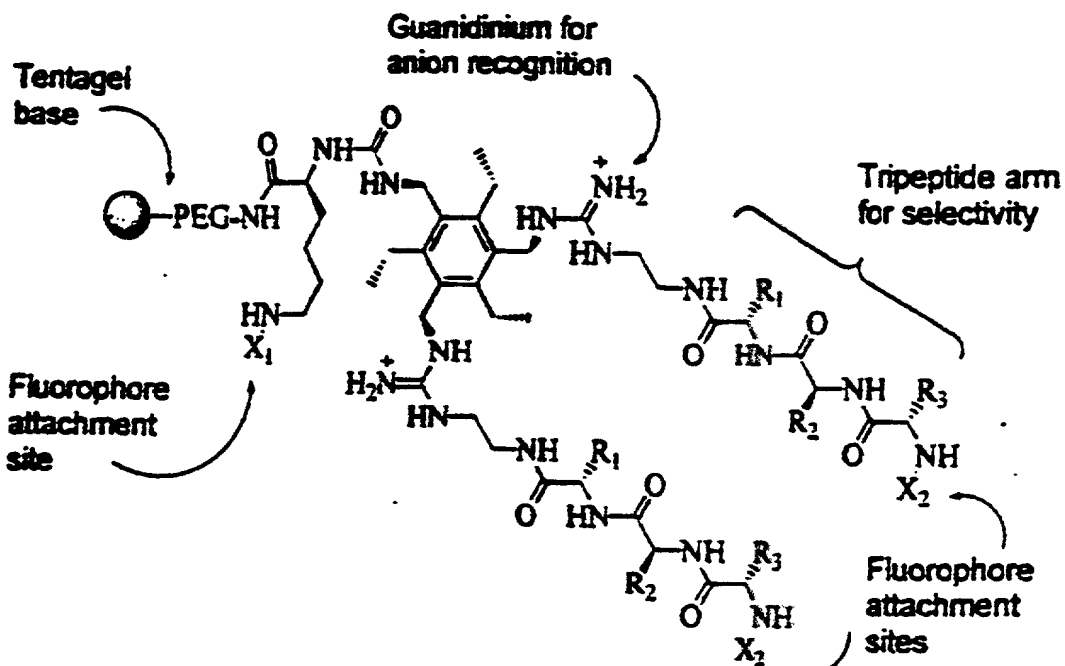
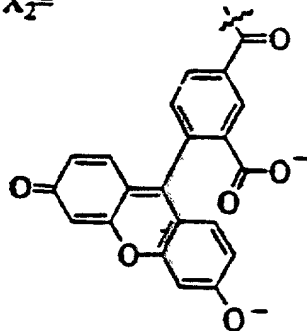
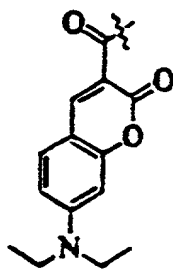
2: $X_1 = X_2 = H$ 3: $X_1 =$ $X_2 =$ 

FIG. 61

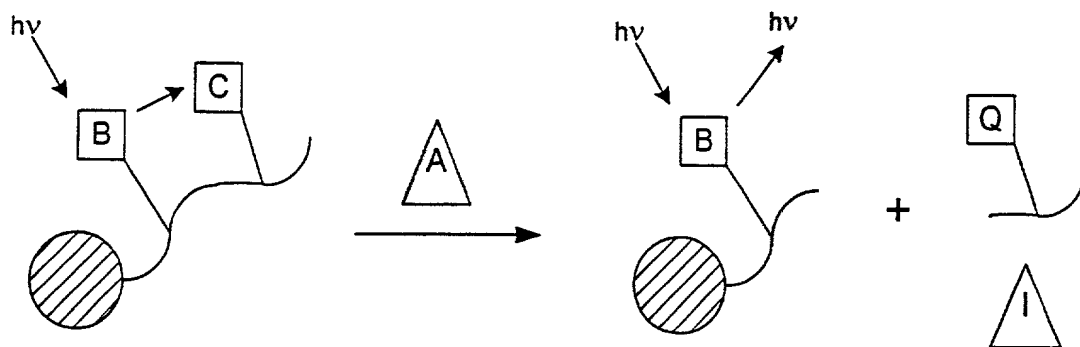


FIG. 62A

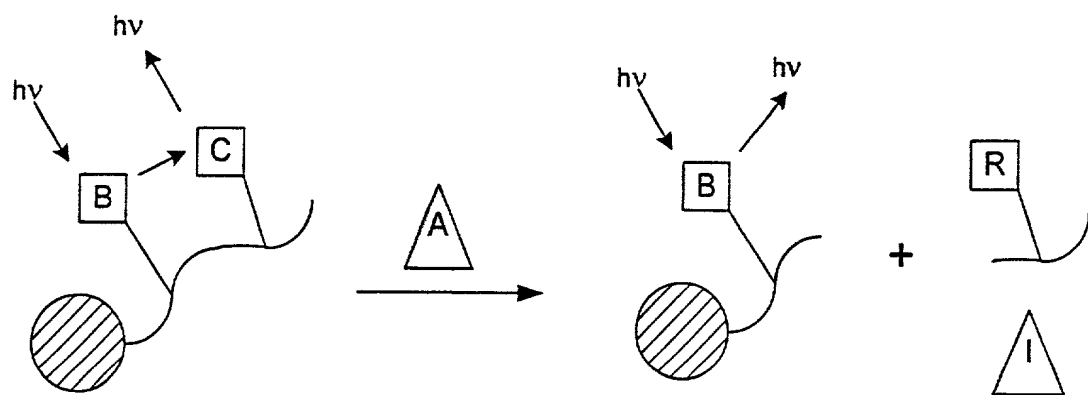


FIG. 62B

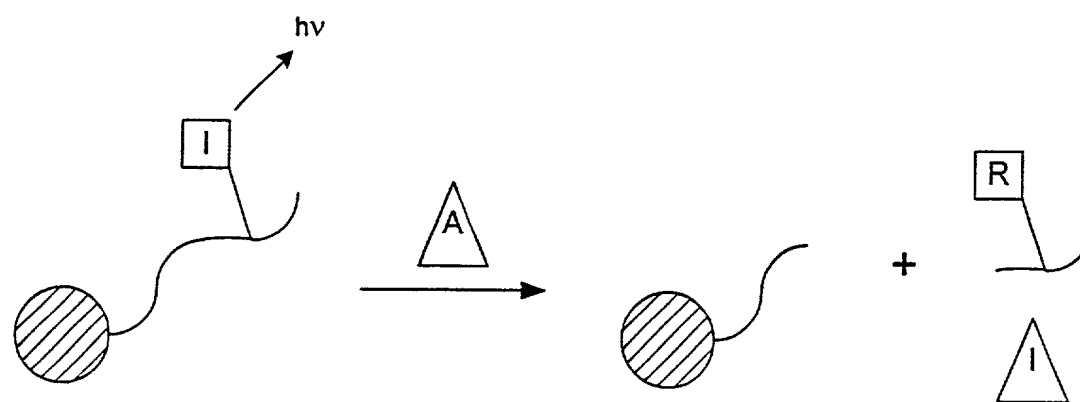


FIG. 62C

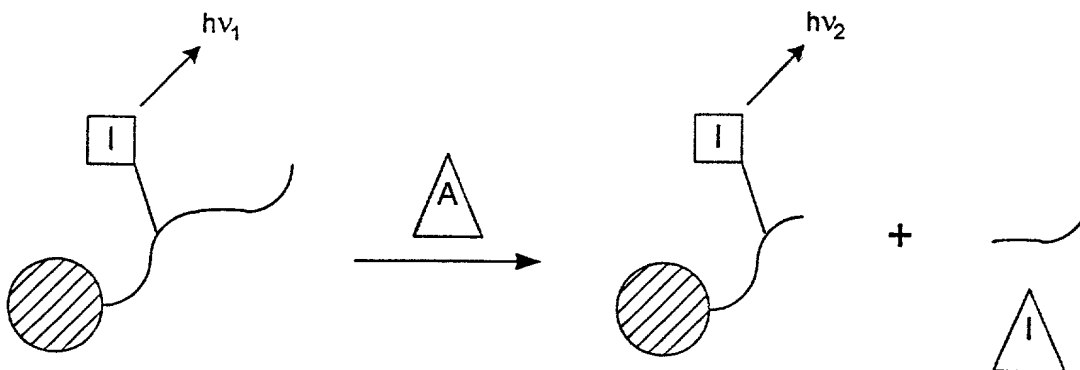


FIG. 62D

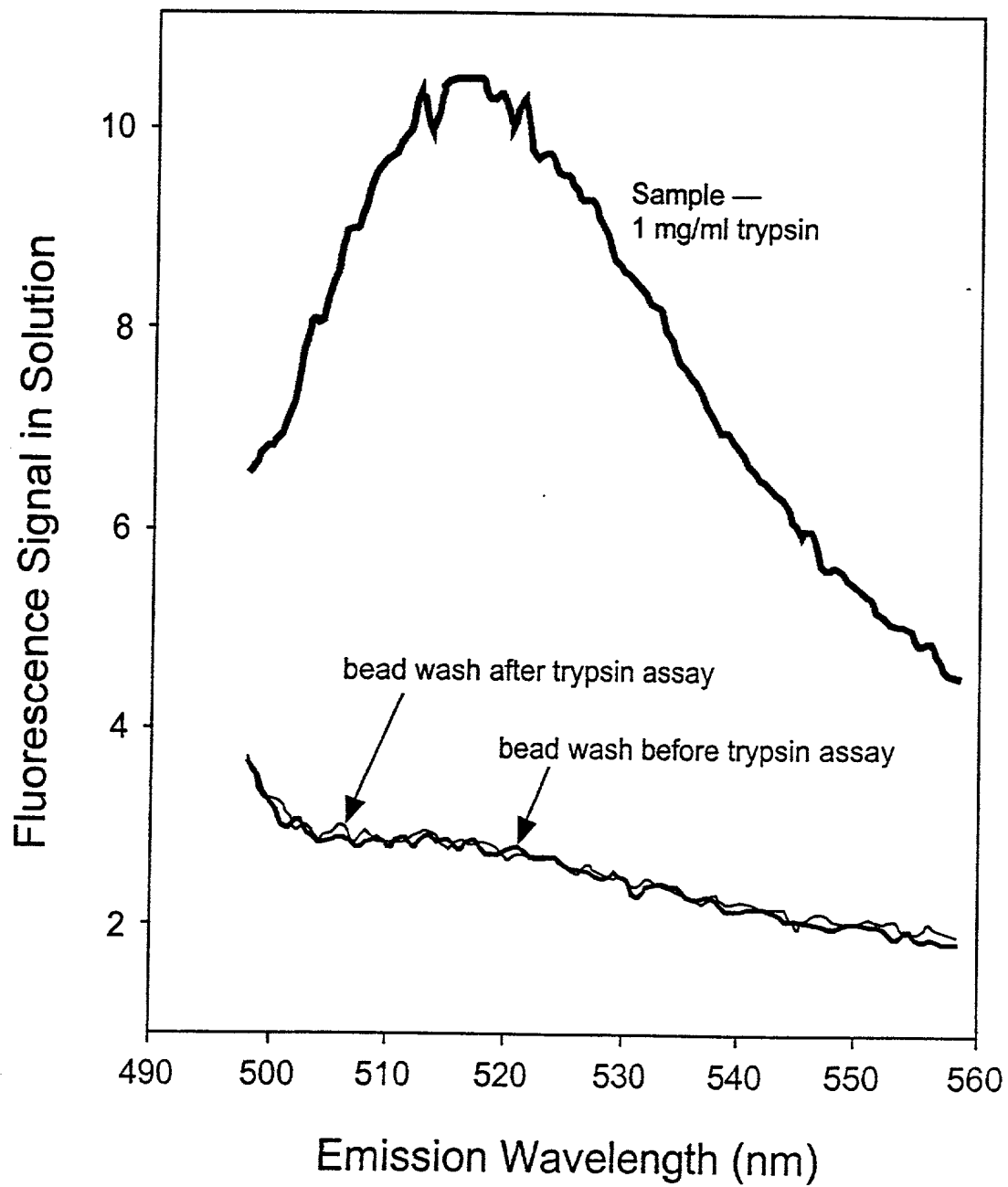


FIG. 63

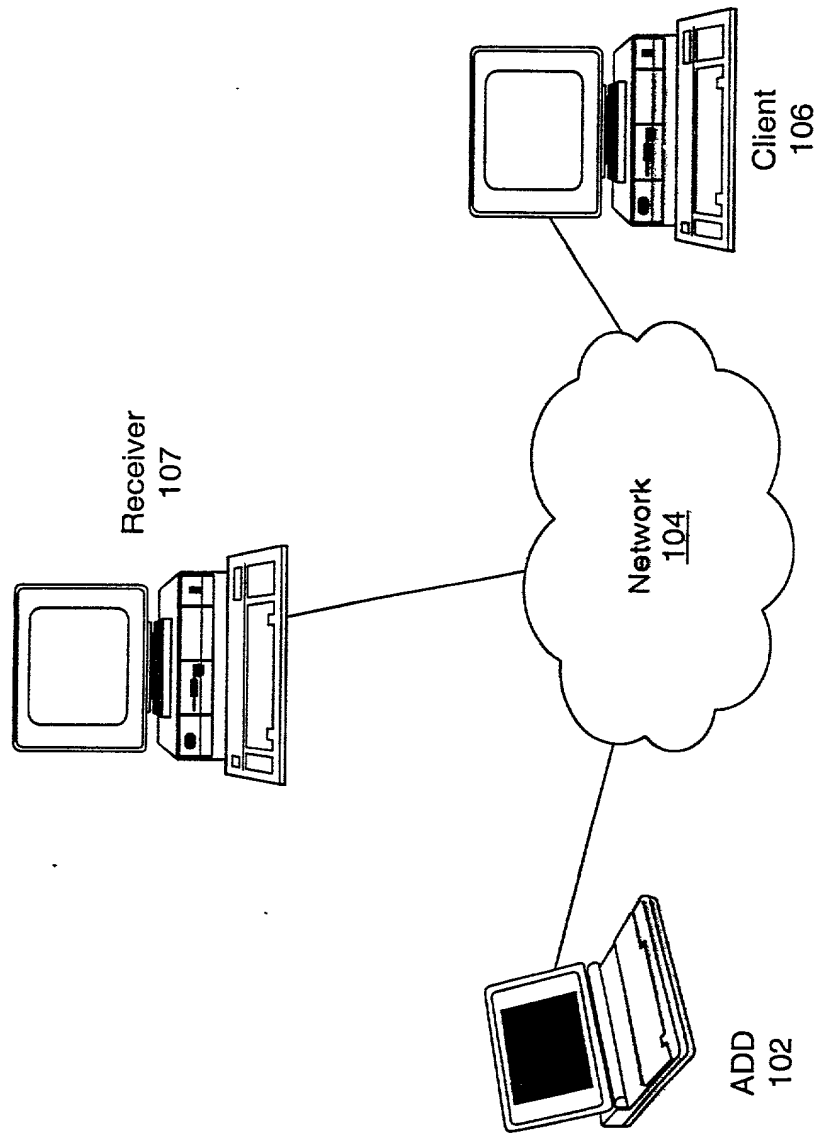


FIG. 64

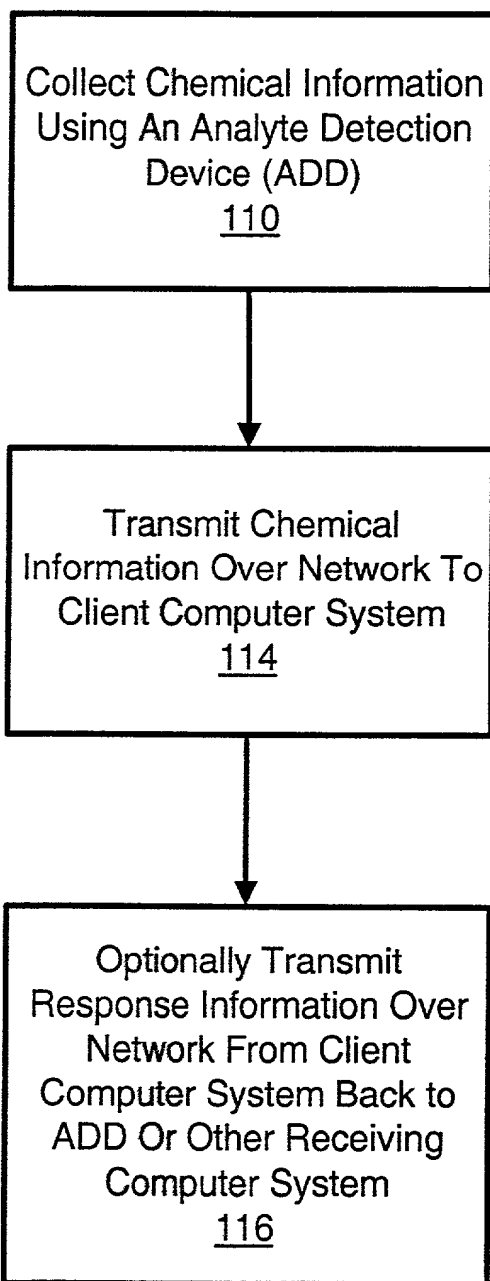


FIG. ~~55~~ 65

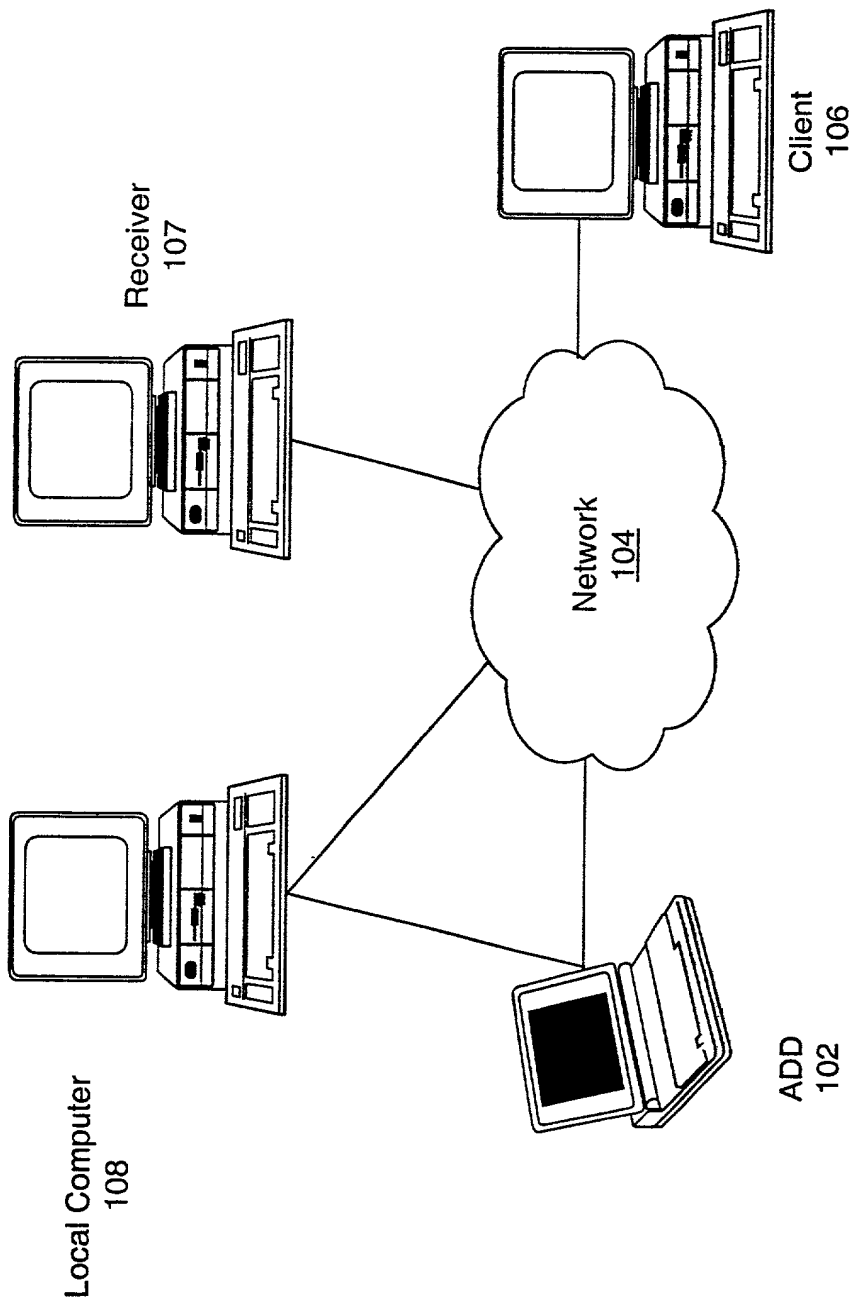


FIG. ~~55~~ 66

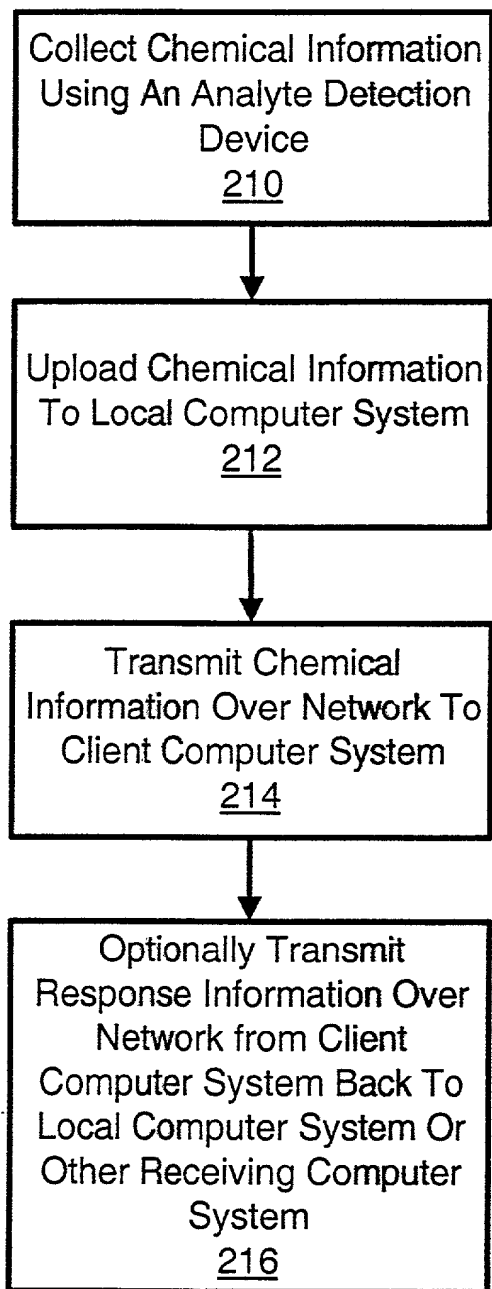


FIG. 67

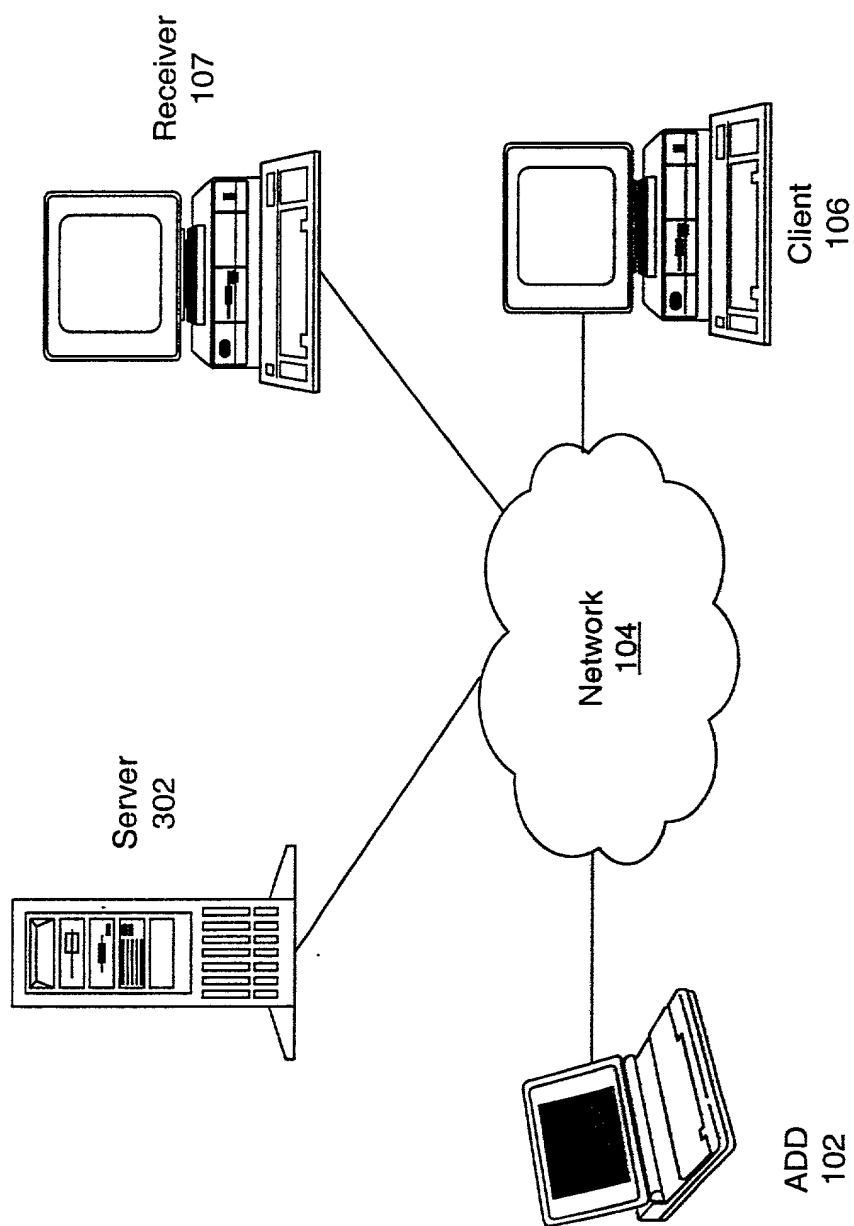


FIG. 68

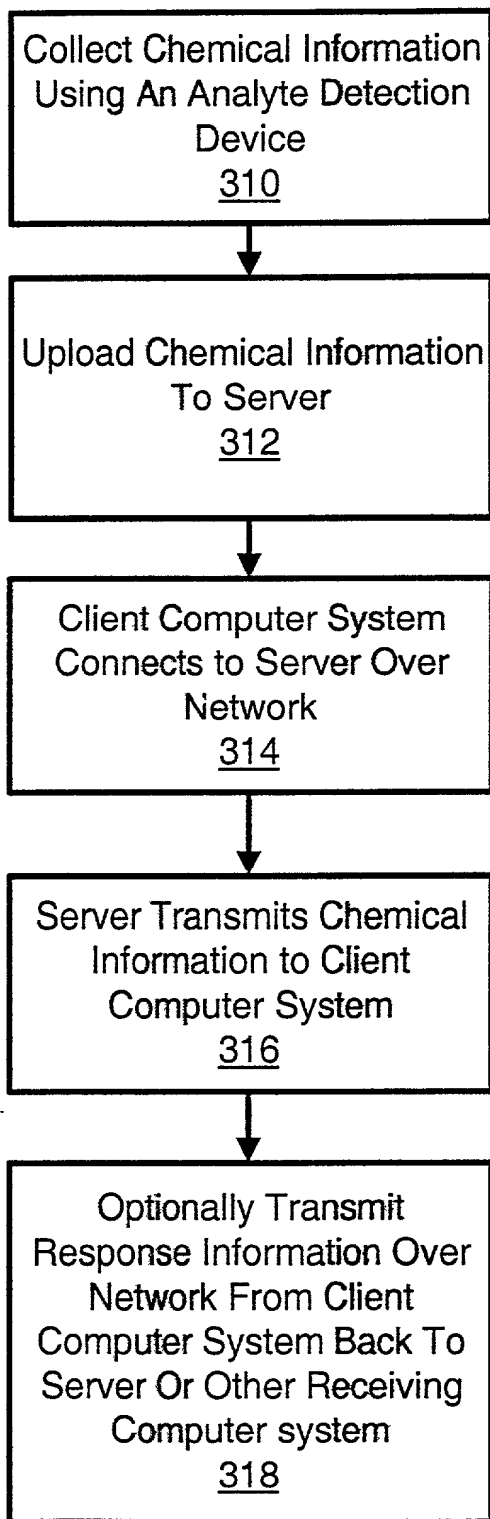


FIG. 69

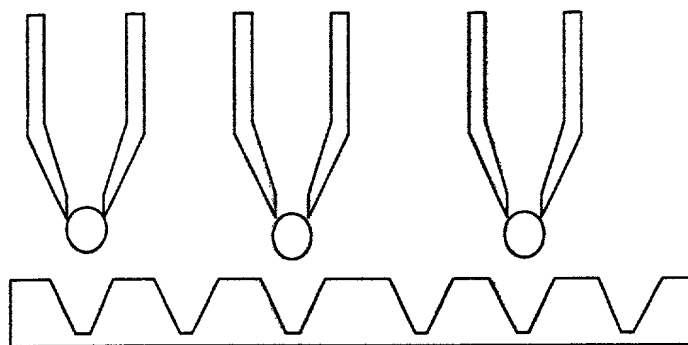


FIG. ~~57A~~ 70A

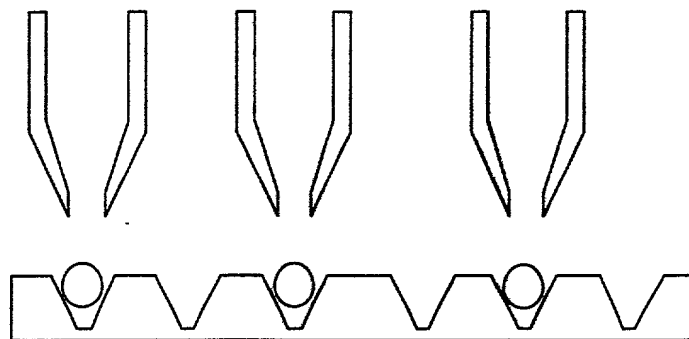


FIG. ~~57B~~ 70B

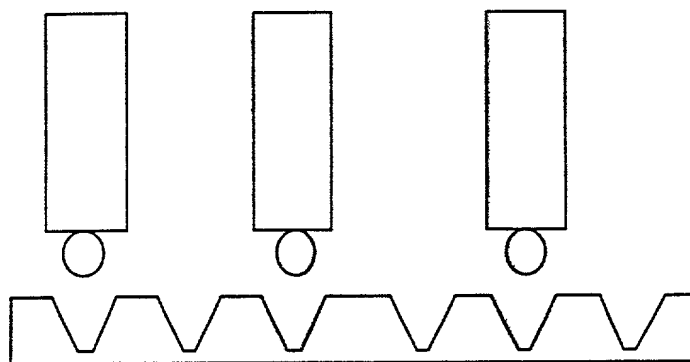


FIG. 50A 71A

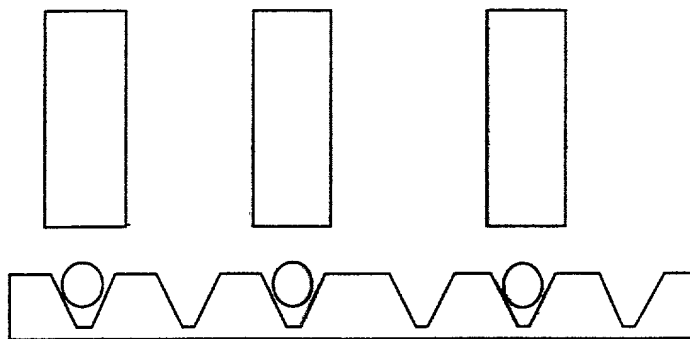


FIG. 50B 71B

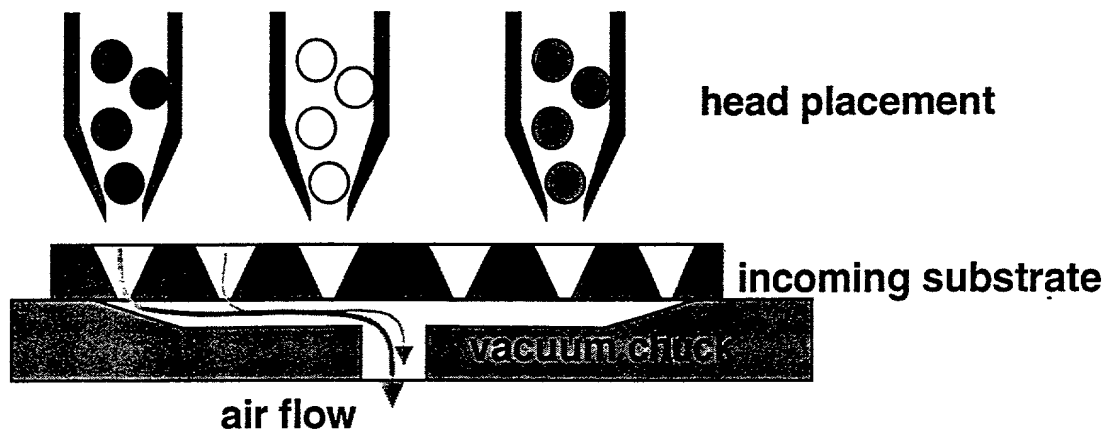


FIG. ~~72~~ 72A

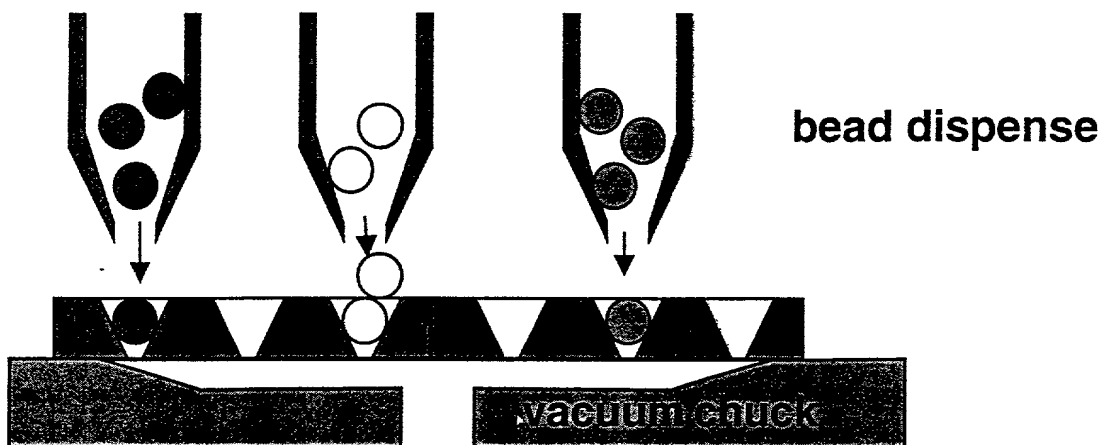


FIG. ~~72~~ 72B

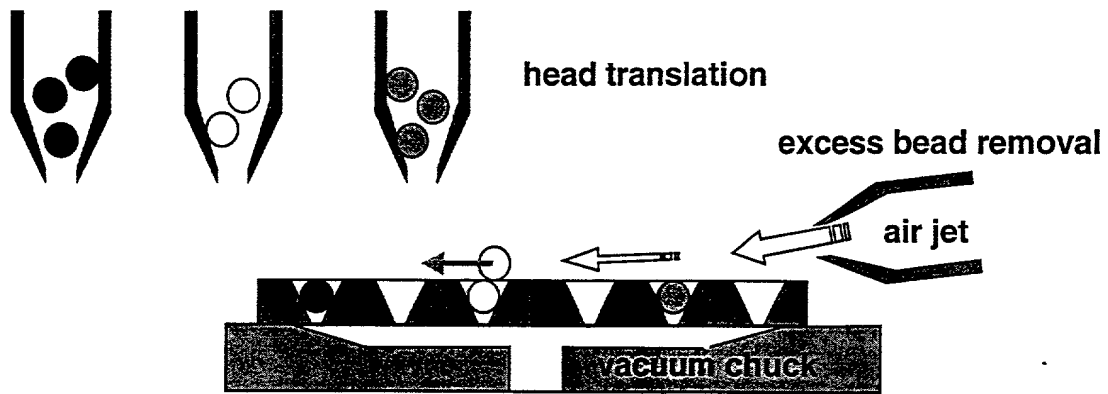


FIG. 592 72C

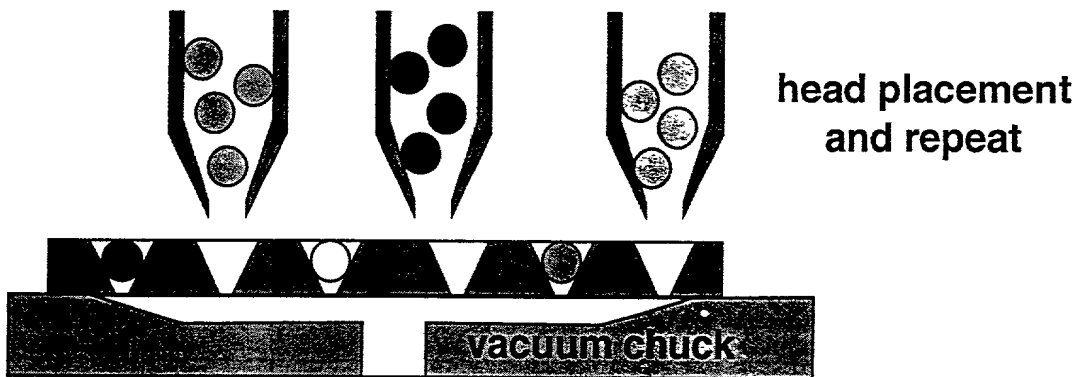


FIG. 593 72D

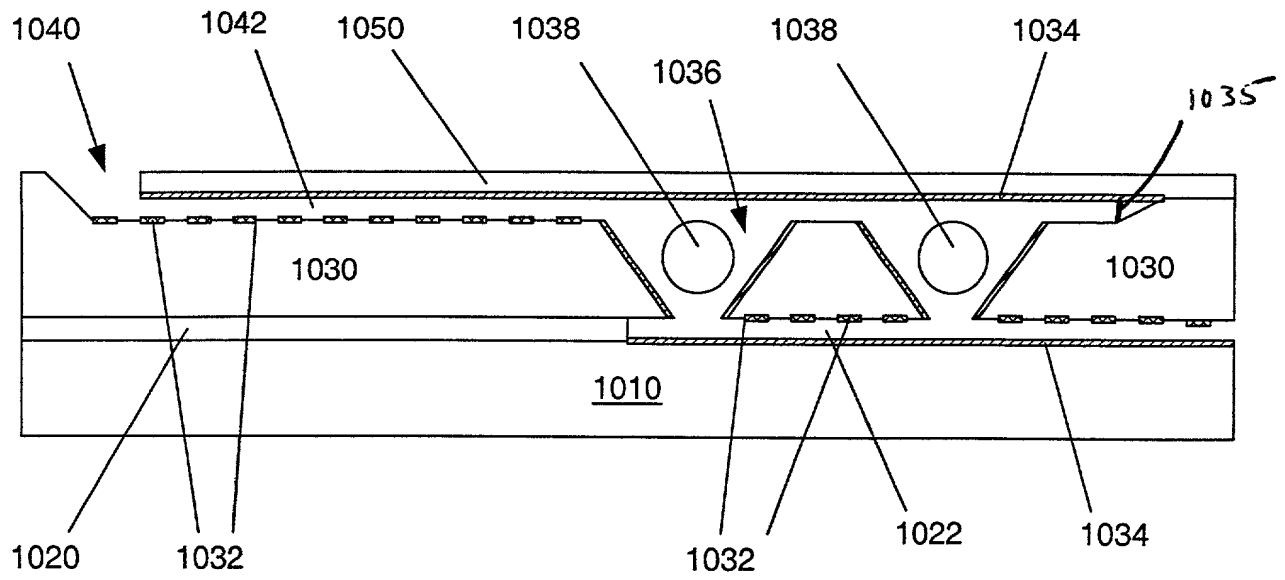


FIG. 73

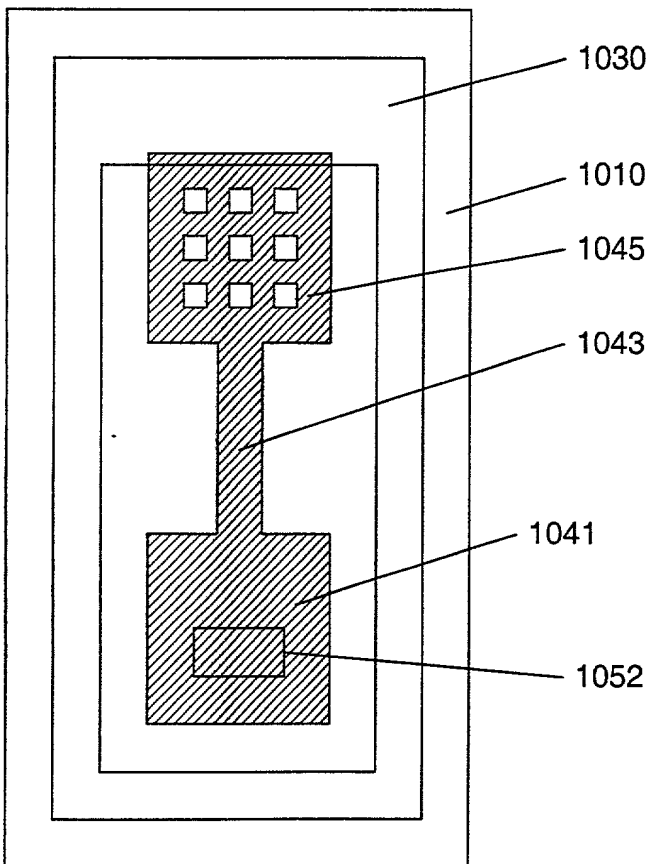


FIG. 74A

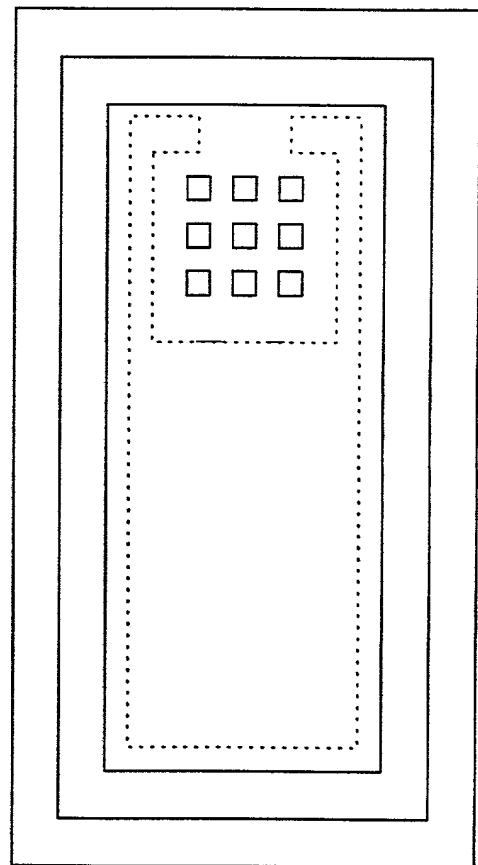


FIG. 74B

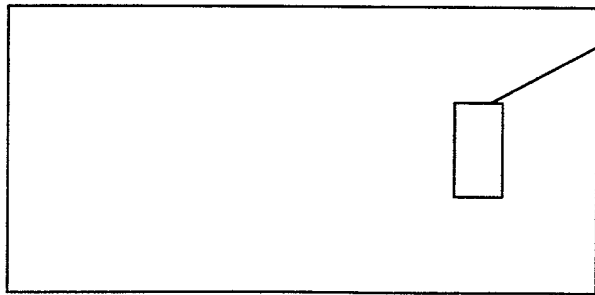


FIG. 5A
75

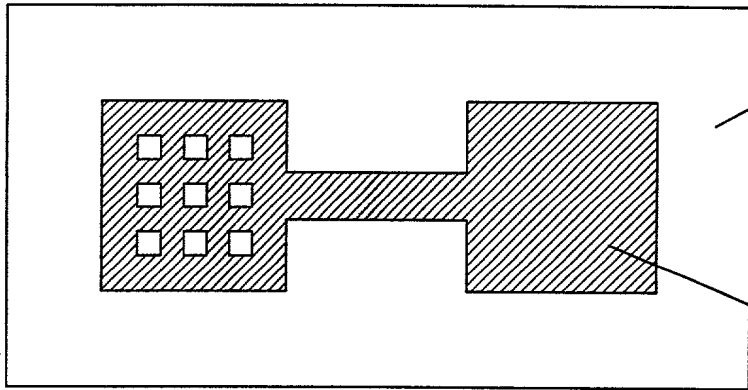


FIG. 5B
75

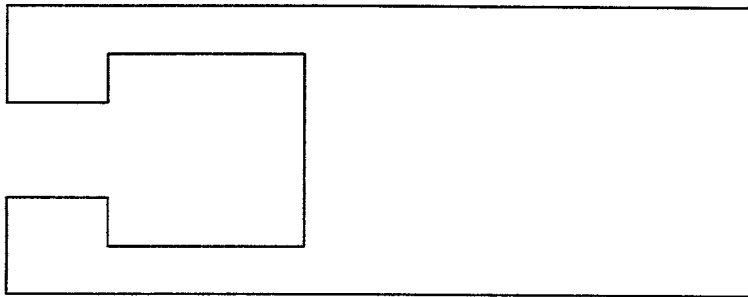


FIG. 5C
75

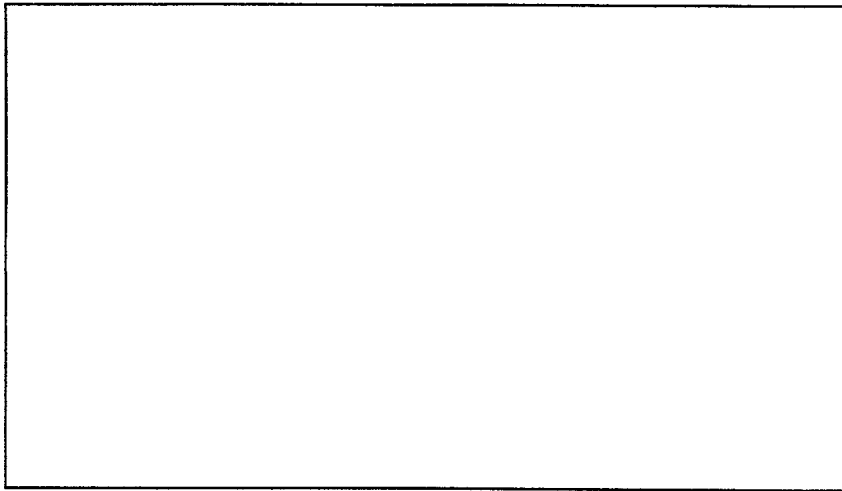


FIG. 5D
75

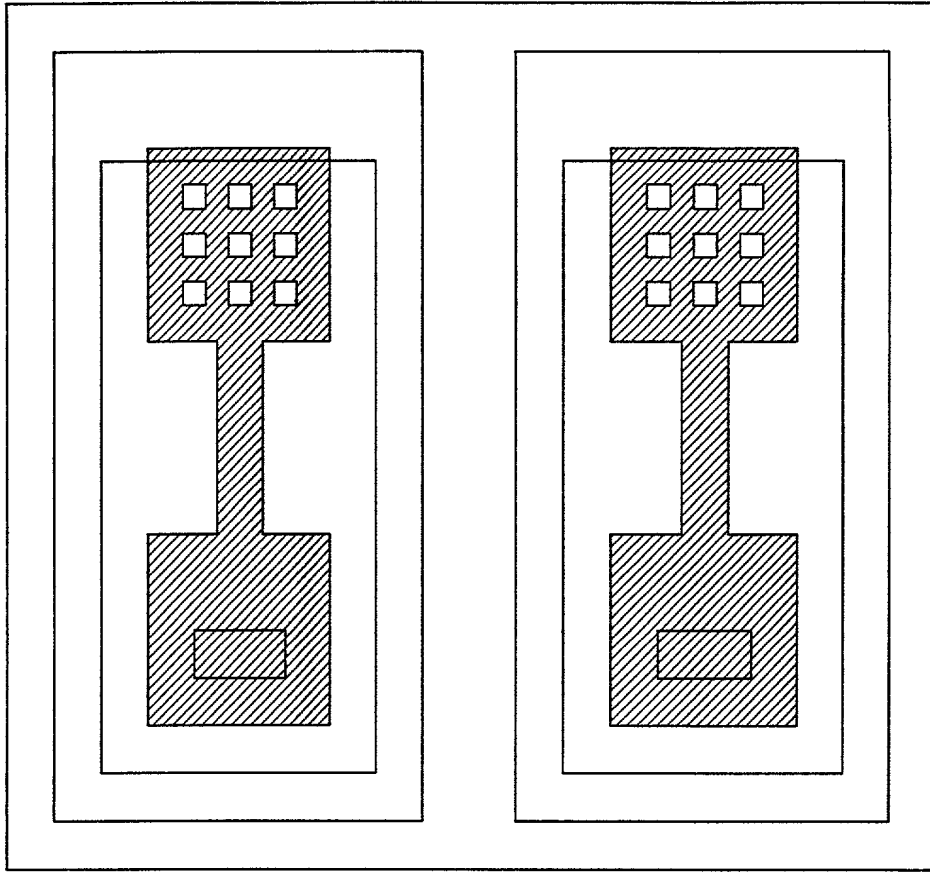


FIG. 76

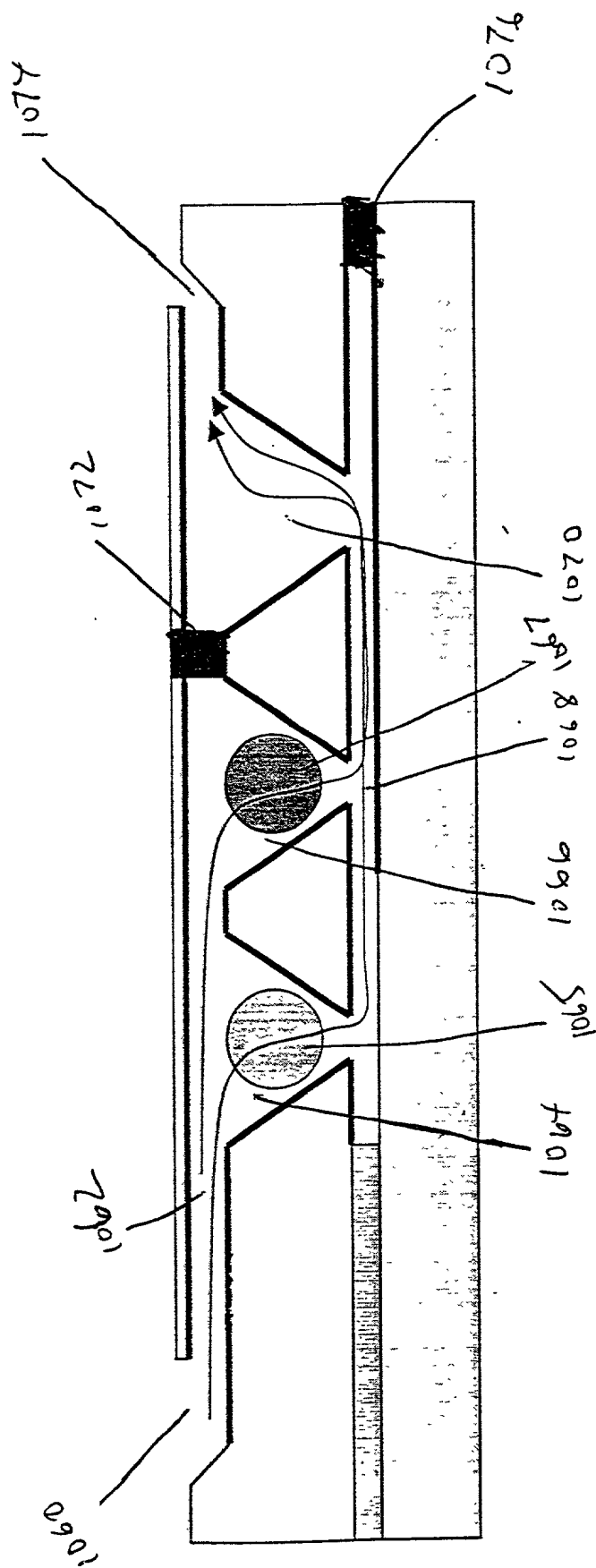


Fig. 77

FIG. 78 is a perspective view of a device 1000 in accordance with the present disclosure. The device 1000 includes a main body 1010, a display 1014, a keypad 1012, and a camera 1030. The main body 1010 is a rectangular box with a front face and a top face. The display 1014 is a rectangular screen on the front face. The keypad 1012 is a grid of buttons on the front face. The camera 1030 is a cylindrical lens on the top face. The device 1000 also includes a top cover 1020, a top cover latch 1022, and a top cover hinge 1040. The top cover 1020 is a rectangular box that fits over the top face of the main body 1010. The top cover latch 1022 is a small cylindrical component on the top cover 1020. The top cover hinge 1040 is a small cylindrical component on the top cover 1020. The device 1000 also includes a base 1050, which is a rectangular box that supports the main body 1010. The base 1050 has three legs 1050a, 1050b, and 1050c. The device 1000 is shown in a perspective view, with the front face and top face visible.

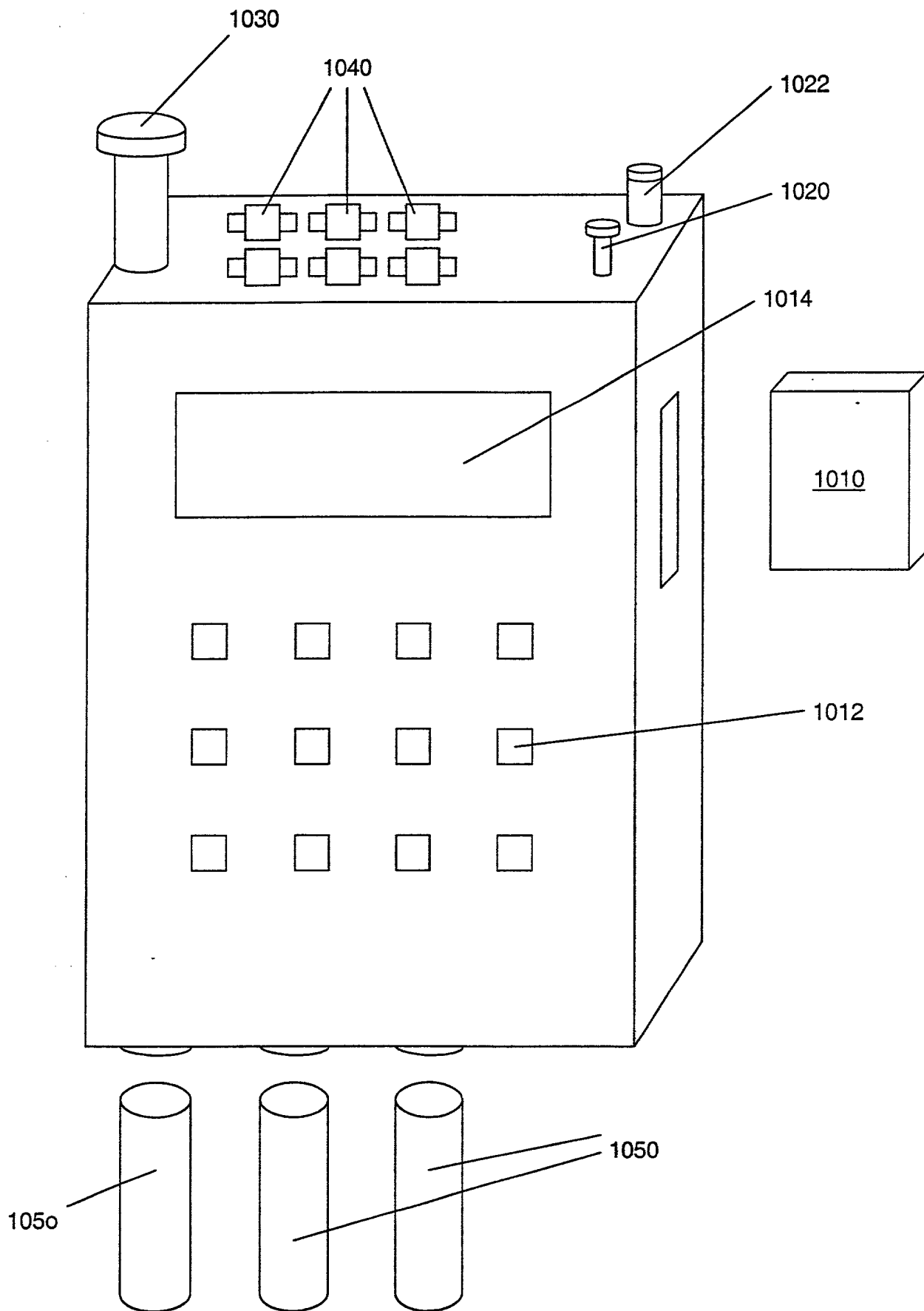


FIG. 78

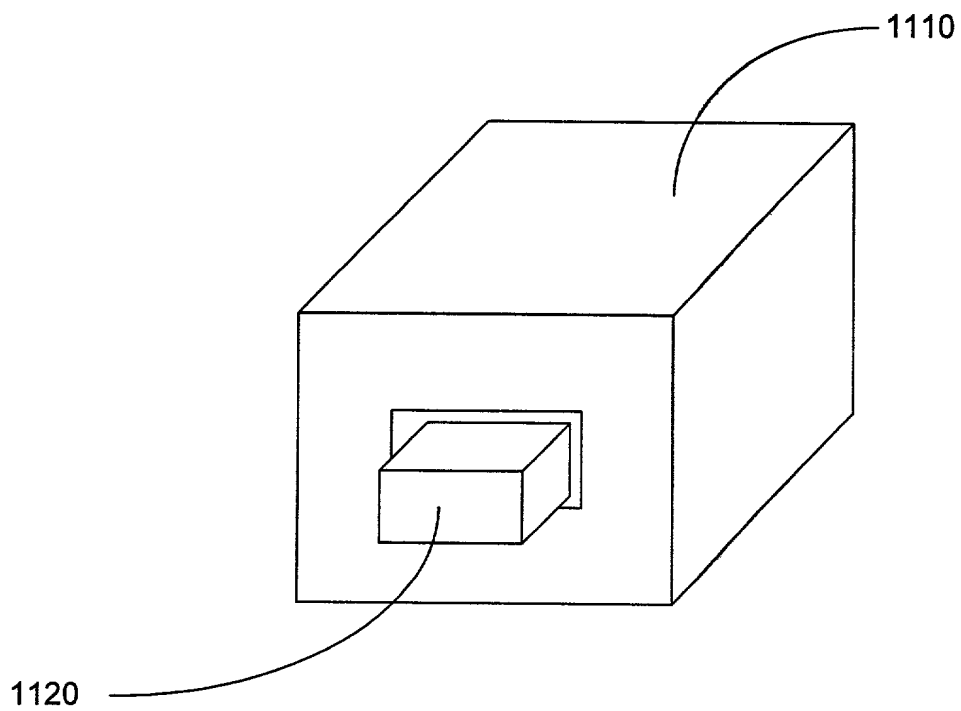


FIG. 79A

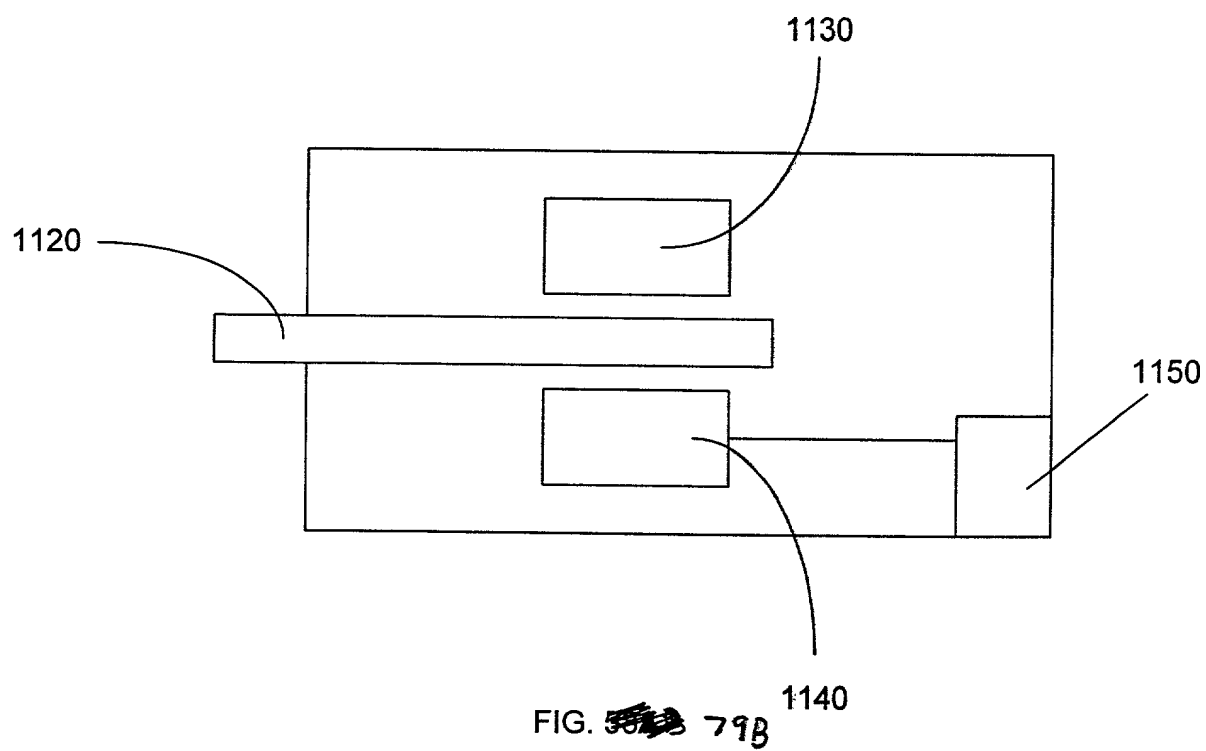


FIG. 79B

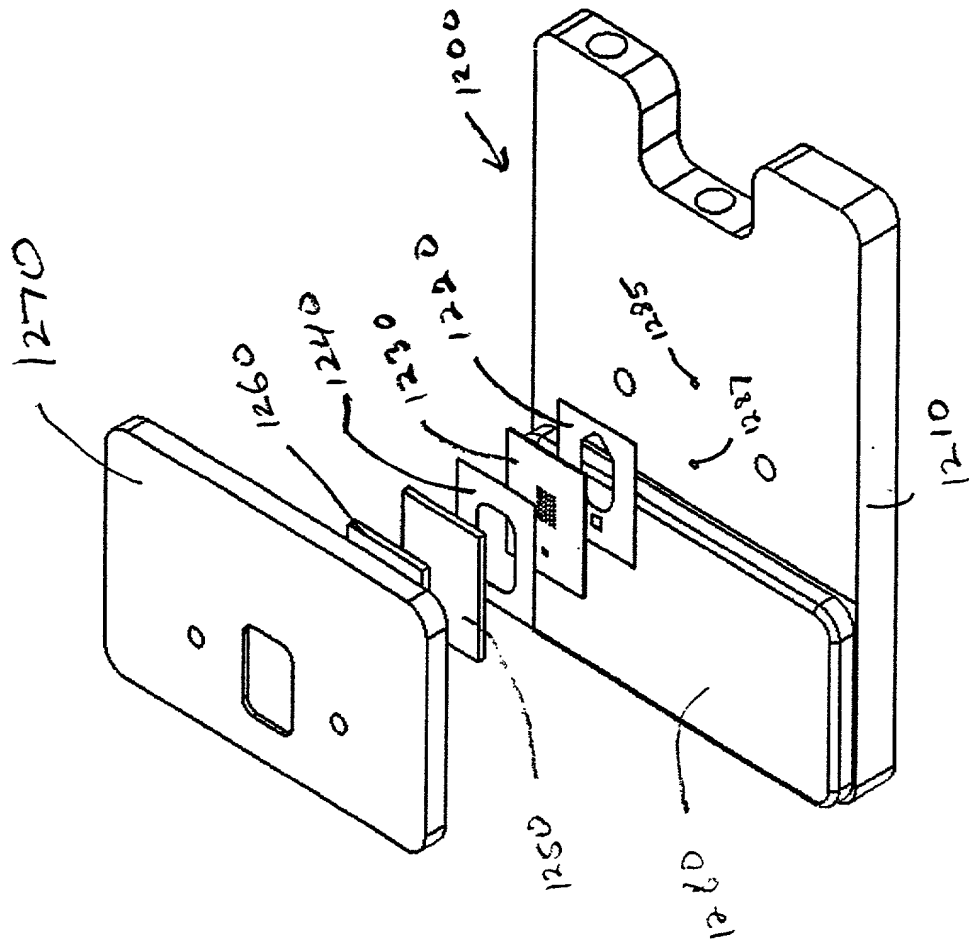


FIG. 80

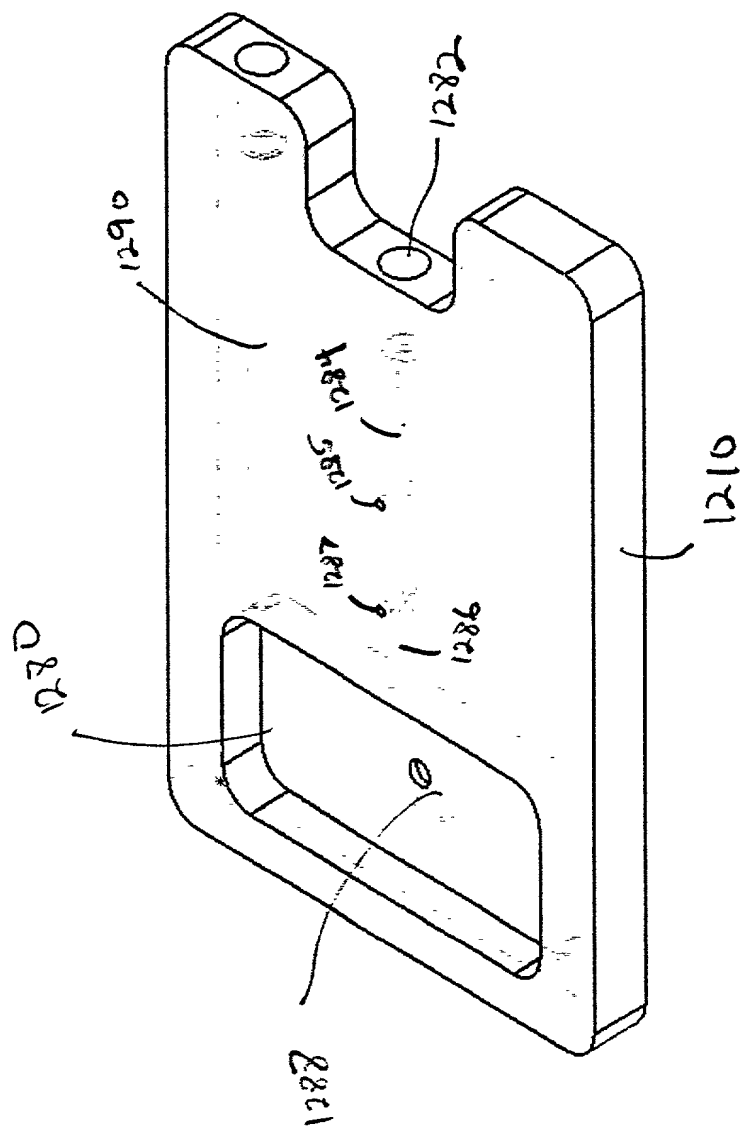


FIG. 81

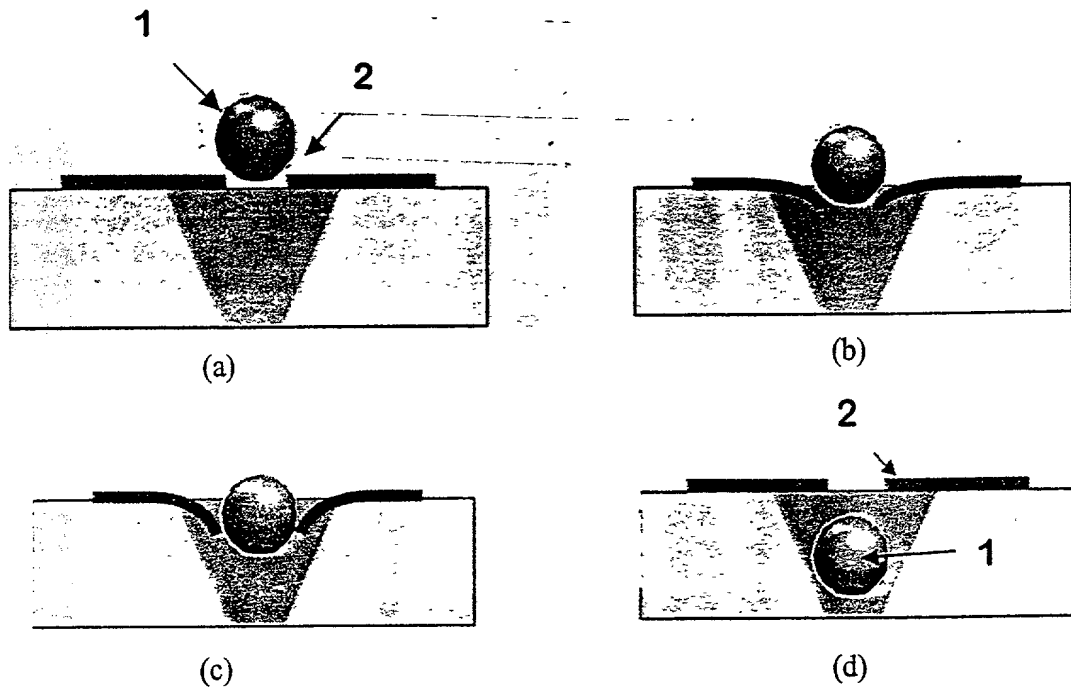


Figure 82